TYLER, TEXAS

ANNUAL CATALOGUE 1966-1967

ANNOUNCEMENT OF COURSES 1967-1968

TYLER JUNIOR COLLEGE

EAST FIFTH STREET

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ANNUAL CATALOGUE

1966 - 1967

WITH

ANNOUNCEMENTS FOR

1967 - 1968

and

1968 - 1969

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TYLER, TEXAS

TABLE OF CONTENTS

Page

Accrediting of the College 16
Activities 30-31
Administration 6
Admission Requirements 16
Adult Education 21
Apache, College Yearbook 30
Apache Belles 30
Athletics 30
Attendance Requirements 17
Band 30, 63
Calendar, College Year 1966-67 and 1967-68 ..... 4, 22
Choir 30, 63
Counseling 17

Course Descriptions —
- Advertising Arts 81-82
- Agriculture 41-42
- Art 42-43
- Astronomy 49
- Bible 43-44
- Biology 44
- Business Administration and Data Processing 45-48
- Chemistry 48-49
- Distributive Education 70
- Drafting 77-78
- Economics 50
- Education 50-51
- Electronics 79-80
- Electronic Data Processing 48, 73
- Engineering 51
- English 52-53
- Foreign Language 53-54
- Geology 49-50
- Geography 50
- Government 54
- History 54-55
- Home Economics 55
- Journalism 52
- Mathematics 55-58
- Mechanical Drawing 78
- Meteorology 50
- Music Courses 58-63
- Nursing 63-65

TABLE OF CONTENTS

Page

Petroleum Technology 75-76
Pharmacology 65
Physical Education 65-66
Physics 66-67
Psychology 67-68
Reading Improvement 53
Sociology 68
Speech 68-70
Surveying 83-84
Television 79-80

Courses, Numbering of 20
Courses, Suggested for Freshmen 32-40
Credit, Explanation of 20

Degrees —
Associate in Arts 18
Associate in Business Administration 18
Associate in Applied Engineering 18
Associate in Science 19

Faculty 6-14
Grading System 17
Graduation Requirements 17-19
History of Tyler Junior College 15
Library, Description of 21
Music Majors, Curriculum 35
Night School, The Evening Division 21
Nursing Program, Registered 35-37
Objectives of the College 16
Proficiency Certificates 19
Reports to Parents 17
Refunds 24
Scholarships, Awards, Loan Funds 24-29
Social Activities 31
Student Housing 21-22
Student Load 21
Student Organizations 30-31
Student Senate 31
Summer Session 4
Technical and Industrial Division 71-84
Transfer of Credit 21
Tuition and Fees 23-24
Vocational Rehabilitation 29

GENERAL COLLEGE CALENDAR

1966 - 1967
and
1967 - 1968

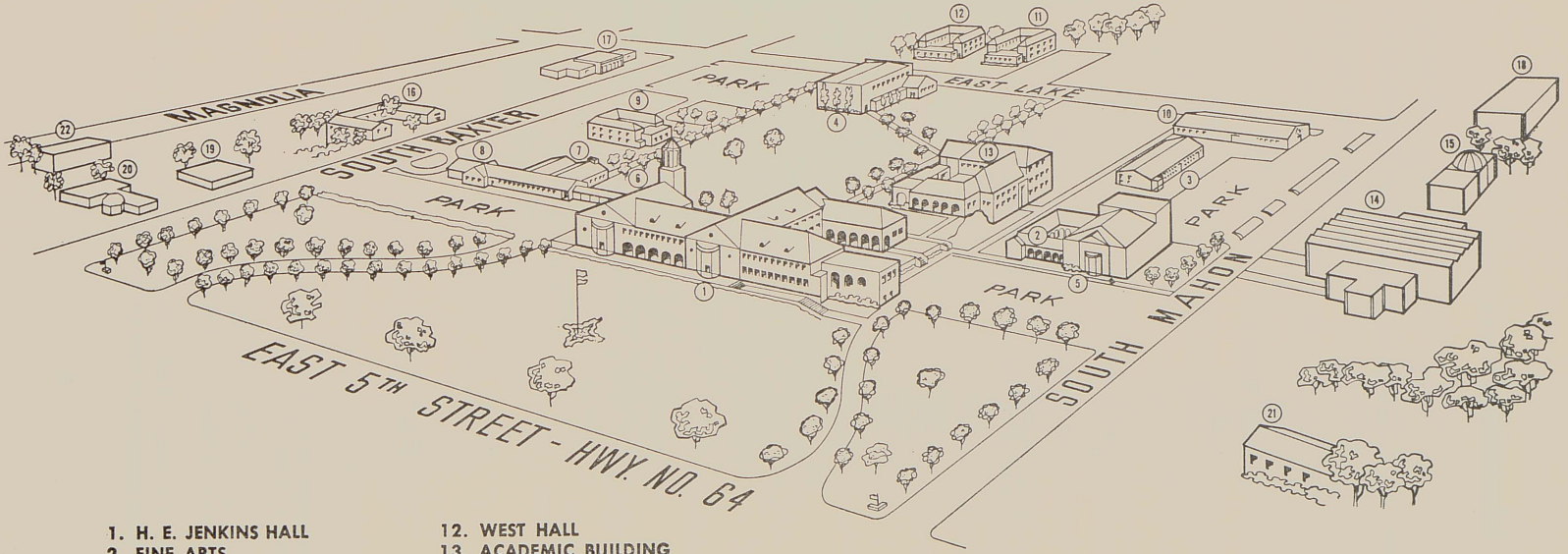
ADVANCE REGISTRATION

The administrative offices are open throughout the summer for advance registration. Thorough and leisurely counseling is available on degree plans and technical courses and vocations. Students may arrange appointments from 8 a.m. until 3 p.m. Mondays through Fridays.

FALL SEMESTER	**1967-68**
Final Registration	Aug. 29, 30, 31, Sept. 1
Classes Begin	Sept. 5
Freshman Convocation	Sept. 5, 12
Thanksgiving Holidays	Nov. 23-24
First Christmas Holiday	Dec. 18
Classes Resumed	Jan. 2, 1968
Fall semester final examinations	Jan. 12-18

SPRING SEMESTER	**1967-68**
Registration for spring semester	Jan. 22-25
Classes Begin	Jan. 29
Easter Holidays	April 12-15
Honors Day	May 21
Final Examinations	May 23-28
Commencement	May 31

SUMMER SESSION	**1968**
Registration	June 3
Classes Begin	June 4
Holiday	July 4
First Term Ends	July 12
Registration for Second Term	July 15
Classes Begin	July 16
Second Term Ends	Aug. 23



1. H. E. JENKINS HALL
2. FINE ARTS
3. APPLIED ARTS
4. GENTRY GYMNASIUM
5. WISE AUDITORIUM
6. LIBRARY
7. STUDENT UNION
8. DINING HALL
9. LILLYE MAE VAUGHN HALL
10. EAST HALL
11. CENTER HALL
12. WEST HALL
13. ACADEMIC BUILDING
14. GYMNASIUM
15. HUDNALL PLANETARIUM
16. BAPTIST STUDENT UNION
17. CLARIDGE HALL
18. TECHNOLOGY
19. CHURCH OF CHRIST BIBLE CHAIR
20. METHODIST BIBLE CHAIR
21. PRESBYTERIAN BIBLE CHAIR
22. BATEMAN HALL

CAMPUS OF
TYLER JUNIOR COLLEGE

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I. L. Friedman, B.S. ..... Dean of the Evening Division
Edwin Fowler, M.Ed. ..... Dean of Men and Student Life
Eva Saunders, M.A. ..... Dean of Women
Edwin Brogdon, M.B.A. ..... Assoc. Dean of the Evening Division
Kenneth Lewis, M.S. ..... Registrar

* * * *

FACULTY

Harry E. Jenkins ..... President
B.S., Kansas State College; M.A., The University of Missouri; Ph.D., The University of Texas

Edward M. Potter ..... Vice-President, Academic and General
B.A., M.A., The University of Texas; LL.D., East Texas Baptist College

Richard Barrett ..... Vice-President, Fiscal and General
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FACULTY (Continued)

Johnny Abbey ..... Business
B.B.A., M.B.A., The University of Texas

Andrés R. Acosta ..... Spanish, French
Ph.D., University of Havana, Cuba

Margaret Anders ..... Assistant Librarian

Drucilla Bain ..... Chairman, Department of Art
A.B., Georgetown College

Ray Bagwell ..... Government
B.A., Baylor University; M.Ed., East Texas State University

Boyd V. Baker ..... Bible, Director of the Methodist Bible Chair
B.B.A., B.D., Southern Methodist University

James F. Barnes ..... Government, Economics
B.A., Mississippi College; M.A., The University of Mississippi

B. Lawrence Bell ..... Government, History
B.A., Austin College; M.A., The University of Texas

Silvia Berggren ..... Science Laboratory Instructor

Jack W. Betts ..... Engineering Drawing, Drafting
B.S., M.Ed., East Texas State University

Lawrence Birdsong, Jr. ..... Speech, Drama
B.A., Baylor University; M.A., East Texas State University

Gene Blakely ..... Business Assistant,
B.B.A., North Texas State University Electronic Data Processing

Ray Blankenship ..... Sociology, Psychology
B.S., East Texas Baptist College; M.A., Stephen F. Austin State College

A. L. Blanton ..... English
B.S., M.S., Stephen F. Austin State College

Sharon Boyd ..... English
B.A., M.A., Mississippi College

Jean Browne ..... Chairman, Department of Speech and Drama
B.A., Mt. Holyoke College; B.A., Carnegie Institute of Technology;
M.F.A., The University of Texas; Ph.D., State University of Iowa

Edwin S. Brogdon ..... Associate Dean of the Evening Division,
B.B.A., M.B.A., East Texas State University Distributive Education

B. T. Bryant ..... Mathematics
B.S., M.S., East Texas State University

FACULTY (Continued)

Henry Bryant ..... Accounting
B.B.A., Southern Methodist University

Elizabeth Bryarly ..... Chairman, Department of English
B.A., Baylor University; M.A., The University of Texas

Julius Buchanan ..... Petroleum Technology
B.S., The University of Texas

Don S. Burket ..... Government
B.A., Austin College

John Maxwell Burket ..... Geology
B.A., M.S., Baylor University

Mary Burton ..... English
B.A., M.A., Sam Houston State College

Merrill Cantrell ..... Electronic Data Processing
A.A., Tyler Junior College

Charles E. Cato ..... Business
B.B.A., M.B.A., Sam Houston State College

Edith Chilcote ..... Assistant Librarian
B.A., Southern Methodist University

Louise Clinkscales ..... Chairman, Department of Business Education and Secretarial Training
B.B.A., Baylor University; M.B.A., East Texas State University

Milford T. Collins ..... History
B.A., East Texas Baptist College; M.A., Stephen F. Austin State College

Marjorie Coulter ..... Physical Education
B.S., Baker University

Catherine R. Cox ..... Art
B.S., M.A., North Texas State University

John H. Cox ..... History
B.S., North Texas State University; M.Ed., Texas Technological College

Herman L. Crow ..... Government
B.S., M.S., North Texas State University; Ph.D., The University of Texas

Felder Cullum ..... Psychology
B.S., University of Maryland; M.Ed., Ed.D., North Texas State University

Mary W. Curlee ..... Business
B.S., Mississippi State College for Women; M.Ed., Mississippi State University

Joanne Cyr ..... Foreign Language
B.A., Marshall College; M.A., The University of Texas

FACULTY (Continued)

Stanley Cyr ..... German
B.A., Nebraska Wesleyan University; M.A., The University of Texas

Marvin P. Davis ..... Mathematics
B.S., Lamar State College of Technology; M.A., Louisiana State University

David Demic ..... Mathematics
B.A., Texas Technological College; M.A., The University of Texas

Con Devers ..... History
B.A., M.Ed., Stephen F. Austin State College

Lawrence Dorsett ..... Speech
B.S., Sam Houston State College; M.A., University of Houston

Stephen J. Elliott ..... Piano
Mus.B., M.S., Julliard School of Music

Lena Exum ..... English
B.A., Mississippi State College for Women; M.A., University of New Mexico

Grady Faulk ..... History
B.S., M.Ed., Stephen F. Austin State College

Sara Bess Faulk ..... Assistant Librarian

Norman Ferguson ..... Bible, Director Baptist Student Center
B.A., Baylor University; B.D., Southwestern Baptist Theological Seminary

Edwin Fowler ..... Dean of Men and Student Life, Band
B.A., Baylor University; M.Ed., East Texas State University

Irving L. Friedman ..... Dean of Evening Division,
B.S., East Texas State University Director, Hudnall Planetarium

Ava Lea Gentry ..... Administrative Assistant
A.A., Tyler Junior College

Ruby Gentry ..... English
B.A., Sul Ross State College; M.Ed., Stephen F. Austin State College

Alfred Gilliam ..... Choreographer

Nayer Glen ..... Spanish
B.A., Teheran University; M.Ed., Louisiana State University

Robert Glover ..... History, Government
B.A., M.A., Stephen F. Austin State College

Averille Greenhaw ..... Home Economics
B.S., Oklahoma State University

Cecil Greer ..... History, Government
B.A., University of Miami; M.A., University of Georgia

FACULTY (Continued)

Forest Griffin.....Chairman, Department of Technology, Drafting
B.S., M.S., East Texas State University

George Griffin .....Business
B.B.A., Southern Methodist University

James L. Hallmark.....Physical Education and Football Coach
B.S., Texas A&M University; M.A., Stephen F. Austin State College

Etha Hand.....Nursing
B.S., Texas Woman's University

La Rue Hardee.....Director, Texas Eastern School of Nursing
B.S., The University of Wyoming

Thurman Dale Hamman.....Business
B.A., M.S., East Texas State University

Claire Heaton.....English
B.A., Stephen F. Austin State College

Richard Heitzman.....Speed Reading
B.CH.E., University of Florida

Joseph C. Henderson.....Biology and Chairman Department of Science
B.A., Rice University; M.A., The University of California at Berkeley

Ernest E. Hendrix, Jr.....Surveying
B.S., Texas A&M University

Burton Hermann.....History
B.A., M.Ed., Texas A&M University

G. D. Higgins.....Electronics
Technical Expert

Paul W. Hilburn.....Government
B.A., Texas A&M University

Charles M. Hix, Jr.....Engineering
B.S., M.A., Texas A&M University

Loretta Holbrook .....English
B.S., M.A., Stephen F. Austin State College

Jim Anna Honig.....Nursing
R.N., Harris College of Nursing

Kay Horsley .....Nursing
B.S., University of Texas

James Hudson.....Mathematics
A.B., M.S., Kansas State Teachers College

FACULTY (Continued)

W. H. Ingram ..... Electronics
B.S., Texas A&M University

Iva Jenkins ..... Assistant Librarian

Wiley W. Jenkins ..... History, Government and Chairman Department of Social Science
B.A., The University of Mississippi; Ph.D., The University of Texas

J. W. Johnson ..... Music
B.M., M.M., North Texas State University

Elton Wayne Keith ..... History
B.A., M.A., Baylor University; M.A., Peabody College

Hugh A. Kenner ..... Business
B.B.A., M.B.A., East Texas State University

Monty Kester ..... Mathematics
B.A., McMurry College; M.S., Oklahoma State University

Phyllis Kester ..... Mathematics
B.A., M.S., Oklahoma State University

Joseph Kirshbaum ..... Chairman, Department of Music
Mus.B., Mus.M., Yale University

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B.S., Illinois Wesleyan University

Versia Lacy ..... Science
B.S., Tillotson College; M.S., Atlanta University

Willie Lankford ..... English
B.A., Texas Woman's University; M.A., Stephen F. Austin State College

Charles Lewis ..... English
B.J., University of Texas

James N. Lewis ..... Government, Economics
B.S., M.A., North Texas State University

Kenneth D. Lewis ..... Registrar, Agriculture
B.S., Texas A&M University; M.S., East Texas State University

Eugene B. Long ..... Counselor, Education
A.B., Wiley College; A.M., University of Michigan

Jefferson H. Martin ..... Mathematics
B.S.E., Southern State College; M.A., University of Arkansas

Hubert May ..... Mathematics
B.A., M.A., East Texas State University

Merry McBryde ..... Nursing
B.S., University of Texas

FACULTY (Continued)

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B.M., M.M., Westminster Choir College; S.M.D., Union Theological Seminary

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B.A., M.A., North Texas State University

Gertrude McDonald ..... English
B.S., North Texas State University

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B.A., Southern Methodist University; M.A., East Texas State University

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B.A., Southwestern University; M.S., East Texas State University

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B.B.A., Stephen F. Austin State College

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B.A., M.A., Rice University

James Murray, Jr. ..... English
B.A., Baylor University; M.A., The University of Texas

Sarah Nellis ..... Nursing
B.S., Texas Christian University

John R. Osborne ..... Chemistry, Biology
B.A., Baylor University; M.Ed., Texas A&M University

Curtis Owens ..... Business
B.B.A., University of Tennessee

Ronald Patschke ..... Mathematics
B.S., M.A., Southwest Texas State College

Robert K. Peters ..... History
B.A., Texas Christian University; M.A., Stephen F. Austin State College

Lloyd Powers ..... Speech
B.A., M.A., University of Oklahoma

Blanche Prejean ..... English, Journalism
B.A., Texas Wesleyan College; M.A., Stephen F. Austin State College

Pauline Pynes ..... Business
B.B.A., M.B.A., East Texas State University

Herbert L. Richardson ..... Counselor
B.S., M.Ed., University of Houston

Joan Richardson ..... Business
B.B.A., The University of Houston

Thomas G. Robinson ..... Social Science
B.A., M.A., The University of Oklahoma

FACULTY (Continued)

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B.A., Texas Christian University; M.A., Our Lady of the Lake College

Leo Rudd ..... Counselor
B.A., William Jewell College; M.S., East Texas State University

John B. Saleh, Jr. ..... Business Administration
B.B.A., East Texas State College; M.B.A., North Texas State University

Martin Z. Sammons, Jr. ..... Oil and Gas Law
L.L.B., Baylor University

I. C. Sanders ..... Geology
B.A., Rice University; M.A., The University of Texas

Eva Saunders ..... Dean of Women
A.B., Baylor University; M.A., The University of Texas

Nora Shackleford ..... History
B.A., East Central State College; M.A., Oklahoma State University

Grover Don Sikes ..... Bible, Director Church of Christ Student Center
B.A., M.A., Eastern New Mexico University

Louise Smith ..... Art
B.A., North Texas State University

Walter S. Smith ..... Radio-Television
FCC Licensed Radio-Television Engineer

Weldon L. Smith ..... Business
B.B.A., North Texas State University; M.B.A., East Texas State University

Sammie M. Smyrl ..... Mathematics
B.A., East Texas State College; M.A., The University of Texas

Mahlon Soileau ..... French, and Chairman Department of Foreign Languages
B.A., M.A., University of Southwestern Louisiana

Charles Sowders ..... Drafting and Advertising Arts
B.S., Sul Ross State College

Neville Spiers ..... Physical Education and Football Coach
B.S., North Texas State University

Etta Spivey ..... Business
B.S., Mary Washington College

Milton D. Stark ..... Physics, Mathematics
B.A., Rice University; M.S., The University of Mississippi

George Stiles ..... Biological Science
B.S., Sam Houston State College; M.A., Colorado State College of Education

FACULTY (Continued)

Clarence Strickland ..... Speech
B.S., M.S., East Texas State University

Lorene Strickland ..... English
B.A., M.A., Stephen F. Austin State College

June Thompson ..... English
B.S., M.A., Stephen F. Austin State College

Hugh C. Tomlinson ..... Business
B.S., M.Ed., East Texas State University

Thomas Tooker ..... Counselor
A.B., University of Wichita; M.Ed., Texas A&M University

Floyd Wagstaff ..... Director of Physical Education and Athletics
B.S., Stephen F. Austin State College; M.A., North Texas State University

Mary Frances Waldrop ..... English
B.A., M.A., Austin College

Mary Yeager Wallace ..... Director of Counseling and Guidance
B.A., Hardin-Simmons University; M.A., The University of Texas

H. Jerome Walsh ..... Foreign Language
B.A., Mexico City College

Julia Warren ..... Assistant Librarian
A.B., Wiley College; M.S., North Carolina College at Durham

John Richard Wheat ..... Mathematics, Physics
B.A., Stephen F. Austin State College; M.S., University of Mississippi

James David Wicks ..... Chemistry
B.S., M.A., Southwest Texas State College

Mabel Williams ..... Chairman, Department of Mathematics
B.A., M.A., The University of Texas

Kenneth Willis ..... Drafting
B.S., Abilene Christian College

Gladys Wylie ..... English
B.A., Rice University; M.A., Stephen F. Austin State College

Jimmy D. Yancy ..... English
B.A., M.A., Stephen F. Austin State College

Myra York ..... Audio-Visual Aids Coordinator

Carol Zwan ..... English
B.S., M.Ed., The University of Texas

THE HISTORY AND DEVELOPMENT OF TYLER JUNIOR COLLEGE

The original Tyler Junior College was established in 1926 as a part of the Tyler Public School System. It operated under this plan with a small enrollment until September 1, 1946.

On November 13, 1945, the voters established a new, independent Tyler Junior College District, authorized a tax levy for the support of the college, and authorized a bond issue for the erection of a new college plant on its own campus, separating it from the public school system on September 1, 1946.

Since then the Tyler Junior College District has been enlarged and extended by ten neighboring school districts which voted to become a part of the College District for junior college purposes only. The present Tyler Junior College District is now composed of the following districts:

The Tyler Independent School District.
The Winona Consolidated Rural High School District No. 67.
The Chapel Hill Independent School District.
The Lindale Independent School District.
The Rice Consolidated Common School District No. 13.
The Dixie Rural High School District No. 5.
The Swan Consolidated Common School District No. 60.
The Pine Springs Common School District No. 48.
Flint Common School District No. 18.
Van Independent School District.
Grand Saline Independent School District.

The College is operated under statutory authority by its Board of Trustees, composed of ten members.

Students residing in the Tyler Junior College District are entitled to priority in enrollment. Others are admitted if facilities are available, but the College reserves the right to limit the enrollment of students residing outside the Tyler Junior College District whenever in its judgment facilities are not available for additional students.

GENERAL INFORMATION

Objectives of the College. The curricula are intended to meet the needs of students who expect to take four years of college, of those who intend to enter professional schools, and of those who are preparing to begin life's work after completing a year or more in college. An important function of the Tyler Junior College is an adult education program to meet the needs of the area.

Accrediting. The Tyler Junior College is a member of the Association of Colleges and Secondary Schools for the Southern States, the Texas Association of Colleges and Universities, and the Texas Association of Music Schools.

Membership in these accrediting associations makes possible the transfer of credit for work done in Tyler Junior College to other colleges and universities.

Since colleges differ in their curricula, a student should secure the catalogue of the institution to which he intends to transfer credit. Courses for his first two years should be planned in accordance with the degree plan of the institution to which he will transfer.

Admission. Registration for the fall semester begins in June and continues daily throughout the summer. By this system the student is assured of thorough and leisurely counseling on degree plans and personal problems.

Students will avoid delay in registering by sending a transcript of credits from the high school or college last attended.

1. Admission by Graduation from High School.
   Graduation from a standard high school with at least fifteen units of high school credit, including three units in English, is required. The elective units must be chosen from the list approved by the Texas Education Agency.

2. Admission by Examination.
   Mature students who are not graduates of a high school may absolve the deficiency by taking examinations.

3. A limited number of special adult students are admitted to evening classes upon individual approval.

4. All freshmen must submit scores on the American College Testing Program. The scores are used only for counseling and placement purposes.

It is the student's responsibility to see that these scores are reported to the Registrar well in advance of actual enrollment. Students who have not taken the tests may do so after arrival on the campus.

The American College Testing Program tests are scheduled for February 18, 1967; May 13, 1967 and August 5, 1967; at Tyler Junior College and other conveniently located centers in Texas and elsewhere. A list of them will be found in the Student Information Bulletin of the American College Testing Program testing service. Such information booklets and registration forms may be obtained from high school or college counselors or Registrars.

5. Transfer students with less than fifteen semester hours of credit must submit the American College Testing Program scores.

Attendance. Regular class attendance is fundamental for the success of the student; therefore, a student must report promptly and regularly to all classes. Excessive absence is cause for dropping the student from the rolls.

Guidance and Counseling. The college offers an extensive program in testing, guidance and counseling, under the supervision of the Director of Guidance and Counseling.

Grades and Reports. Students or parents receive grade reports every nine weeks. The standing of the student in each course is determined by his class performance and by regular examinations. Two hours is considered a reasonable amount of time for average students to spend in preparation for each hour of class work.

Students' grades may be interpreted as follows:

A Excellent	X Official drop while passing
B Good	XF Official drop while failing
C Average	Q Unofficial drop
D Poor	W Official withdrawal from college while passing
E Conditional*	
F Failure	WF Official withdrawal from college while failing
I Incomplete**	

* A student making E will be permitted to remove the condition by a second examination within a semester.

** An incomplete must be made up within the following semester. After this time it is changed to F.

Graduation, Degrees and Certificates

The college awards the Associate degree in the fields of liberal arts, applied arts, business administration, engineering, and science to those who complete the requirements as set forth for the particular degree desired and who make proper application to the Registrar for that degree.

Associate in Arts Degree. Students who complete specified liberal arts or pre-professional requirements for graduation receive the Associate in Arts Degree. Students must complete sixty semester hours of work (exclusive of physical training and freshman orientation) with an average grade of at least C.

The sixty semester hours should include twelve hours in English, six in United States History, six in government, and at least fifteen hours of sophomore rank; however, the degree will be granted to any student completing any required sixty hours of a baccalaureate degree plan, provided Government 213-223, English 113-123, United States History 213-223, and the required physical training, are included and the general average is at least C.

At least fifteen semester hours must be completed at Tyler Junior College.

Students who graduate are required to attend the commencement exercises unless excused.

Associate in Business Administration Degree. The degree of Associate in Business Administration is conferred upon students who complete a minimum of sixty semester hours (exclusive of physical training) combining liberal arts with a concentration of secretarial, business administration or Electronic Data Processing courses, provided a minimum of a "C" average is maintained and six hours each are completed in English, United States History and Government.

Associate in Applied Arts Degree. The degree of Associate in Applied Arts is conferred upon students who complete a minimum of sixty semester hours (exclusive of physical training) combining liberal arts with a concentration of advertising arts courses, provided a minimum of a "C" average is maintained and six hours each are completed in American History and Government.

Associate in Applied Engineering Degree. The degree of Associate in Applied Engineering is conferred upon students who

complete, with a minimum of "C" average, a total of sixty hours (exclusive of physical training) in required concentrations in technological fields such as Electronics, Surveying, Drafting or Petroleum Technology, Data Processing, and Commercial Advertising Art, and provided six hours each are completed in English, United States History and Government.

Associate in Science Degree. The degree of Associate in Science is conferred upon students who complete a minimum of sixty hours (exclusive of physical training and freshman orientation), combining liberal arts with certain technical courses. An average of at least C must be attained. Government 213-223, six hours of United States History and six hours of English must be completed. Two years of physical training are required.

Proficiency Certificates. Students who satisfactorily complete certain courses of a vocational nature or those who satisfactorily complete technological courses without taking liberal arts courses for a degree are awarded certificates of proficiency.

Physical Education Requirements. Participation in physical education activity is required of all freshmen in Tyler Junior College. However, most degree plans require two years of such courses and most students elect to meet this requirement in Tyler Junior College.

Substitution of participation in the Apache Band or Belles or intercollegiate athletic squad training during the season of the sport is allowed.

Psychology 110 Requirement. All beginning freshmen are required to enroll in and attend the college orientation course Psychology 110.

Buildings and Facilities

The Tyler Junior College occupies its own 66-acre campus upon which thirteen modern buildings, primarily of colonial architecture, have been erected.

H. E. Jenkins Hall. Many of the academic classes are held in this building and in it also are located the business offices, the library, laboratories, and various special rooms.

The Academic Building. This modern building includes offices, classrooms, laboratories and special facilities.

The Wise Auditorium - Fine Arts Building. This building, erected from the proceeds of a bond issue and a substantial gift from

the Hon. Watson W. Wise, includes an auditorium of surpassing beauty, in addition to special rooms for music, art, drama, and speech arts.

The Technology Building. This building, completed in 1966, includes special classrooms and laboratories for instruction in petroleum technology, electronics, surveying, drafting, advertising arts, electronic data processing, and other technical courses.

The Applied Arts Building. This building contains the drama workshop, art classrooms, and various maintenance and utility facilities.

The Student Center Building. The College Bookstore, Snack Bar, student life offices, student recreational facilities, and College Dining Hall are housed in this building.

Gentry Gymnasium. This is a modern gymnasium for women.

The Men's Gymnasium. This building provides modern facilities for a thorough program in physical fitness and for athletic activities as well as general programs. It has a seating capacity of 3000.

The Hudnall Planetarium. This building houses one of the largest planetariums in Texas as well as special facilities for space education.

Numbering of Courses. One semester hour represents one class hour per week for four and a half months; for example, one course meeting three hours a week for nine months carries credit of six semester hours.

Courses are numbered as follows (except in nursing): The first digit of the number indicates the college year in which the course is taken; the second digit in the number indicates the semester of the year in which the course is taken; the final digit indicates the credit value of the course in semester hours; thus, English 123 indicates that the course is the first year, second semester English with a credit value of three semester hours. The addition of a lower case letter indicates that the course is taught in two or more divisions. The letter S indicates a summer school six weeks course.

All descriptive titles of courses are followed by two numbers in parenthesis. The first of these numbers gives the number of class meetings each week while the second number gives the number of hours of laboratory each week. For example, the no-

tation (3-2) indicates that a course has three class meetings and two hours of laboratory weekly.

Transfer to Other Institutions. Since colleges differ in their curricula, a student should secure the catalogue of the institution to which he intends to transfer credit. Courses for his first two years should be planned in accordance with the degree plan of the institution to which he will transfer.

Library. An excellent reference library consisting of more than 20,000 volumes is housed in the main college building. Here the college also maintains audio facilities whereby the student may listen to musical, dramatic, and literary recordings.

The Evening Division. A regular schedule of evening classes has been arranged, meeting from 7:00 p.m. until 10:00 p.m.

Any adult interested is invited to call the Registrar, Phone LY 4-4281, or the Dean of the Evening Division, Phone LY 2-6761, for further information.

Student Load. Except by special permission from the Dean, a student will not be permitted to register for fewer than four or more than five courses.

Student Housing

Reservations. Students wishing to make dormitory reservations should write to the Dormitory Director, Tyler Junior College, requesting an official application blank for this purpose. It must be accompanied by a deposit of $30.00.

Students will be notified by mail of the date upon which they should arrive and the supplies which they should bring.

Dining Hall. Students living in the dormitories are required to take their meals in the College Dining Hall.

Dormitories. Four modern air-conditioned dormitories for men and two for women are maintained:

Lillye Mae Vaughn Hall. This residence hall was erected in 1958 and furnished through the generosity of Dr. and Mrs. Edgar H. Vaughn. It accommodates 48 women.

Claridge Hall. This privately owned, dormitory for 90 women is operated under exactly the same regulations and supervision as those owned by Tyler Junior College.

East Hall. 40 men are accommodated in this dormitory.

Bateman Hall. This privately owned Dormitory for 166 men is operated under the same regulations and supervision as those owned by Tyler Junior College.

Center Hall. Facilities for 48 men are provided.

West Hall. Facilities for 48 men are provided.

Students accepting dormitory housing must agree to occupy it for the length of the college year.

Note—Non-resident or non-commuting students must reside in college dormitories or college approved houses. No apartments are permitted except to married couples.

The rate for room and board is $340.00 per semester. Students who make dormitory reservations are expected to maintain dormitory residence at least until the end of the college year. Board and room payments are due in full at the beginning of each semester.

Students wishing to pay the semester charge by installments may do so in four equal payments as follows:

Fall Semester		Spring Semester	
September 1	$85.00	February 1	$85.00
October 1	85.00	March 1	85.00
November 1	85.00	April 1	85.00
December 1	85.00	May 1	85.00
	$340.00		$340.00

Dormitory Holidays and Dining Hall Holidays

Thanksgiving Holidays. All dormitories will close November 22, 1967. The will reopen Sunday, November 26, 1967.

The dining hall will close following the noon meal November 22, 1967. It will reopen for breakfast Monday, November 27, 1967.

Christmas Holidays. The dormitories will close Friday, December 15, 1967. The will reopen Monday, January 1, 1968.

The dining hall will close following the noon meal Friday, December 15, 1967. It will reopen for breakfast Tuesday, January 2, 1968.

Easter Holidays. The dormitories will close Thursday, April 11, 1968. They will reopen Monday, April 15, 1968.

The dining hall will close following the noon meal Thursday, April 11, 1968. It will reopen for breakfast Tuesday, April 16, 1968.

Tuition and Fees

Tuition rates in Tyler Junior College are low, since the college is partially supported by the State of Texas. Tuition is due in full at the beginning of the semester. Any other plan must be by special arrangement with the Business Manager. An additional fee of $7.50 is charged for late registration — enrollment after the regularly scheduled registration days.

All tuition and fee charges are subject to change by the Texas State Legislature.

Tuition per semester is as follows:

Residents of the TJC District:	**Tuition per semester**
For three or more subjects	$60.00
For two subjects	40.00
For one subject	20.00

Non-Residents of the TJC District:	**Tuition per semester**
For three or more subjects	$90.00
For two subjects	70.00
For one subject	35.00

The tuition rate charged non-resident students is subject to increase without notice.

Tuition rates for Evening Division courses for all residents of the State of Texas are the rates specified for residents of the Tyler Junior College District.

The Electronic Data Processing Program has a $15.00 per semester rental fee in addition to the tuition.

Technical, vocational and terminal courses — see special announcements of these courses for rates. Page 71.

Statutory Fees. In accordance with the requirements of the statutes of the State of Texas all students in certain laboratory courses are charged an appropriate fee.

Music Fees Per Semester — Individual Lessons

	Regular Students Who Enroll for 12 Sem. Hours or More		Special Students Who Enroll for Music Only	
	One 30-min. Lesson Per Week	Two 30-min. Lessons Per Week	One 30-min. Lesson Per Week	Two 30-min. Lessons Per Week
Piano	$54.00	$75.00	$72.00**	$126.00**
Voice	54.00	75.00	72.00**	126.00**
Violin, Violoncello	54.00	75.00	72.00**	126.00**
Harp	54.00	75.00	72.00**	126.00**
Organ	54.00	75.00	72.00**	126.00**
Clarinet	54.00	75.00	72.00**	126.00**

Practice Room (four hours per week) 4.00

** Includes tuition plus special music fee.

Graduation Fees. A fee of $7.00 is paid by students at the time of graduation.

Non-Resident Tuition. Students whose residence is outside the State of Texas, and who are thereby classified as non-resident students according to the definition provided by House Bill 507 (enacted by the Fiftieth Legislature of the State of Texas,) are charged a non-resident tuition of $200.00 per semester for a full student load of twelve hours or more in accordance with the provisions of House Bill 507. The non-resident fee is subject to change without notice.

For less than twelve semester hours the non-resident rate is $25.00 per semester hour, with a minimum of $25.00.

Refund Policy. No refund of tuition will be made except for withdrawals effected during the first two weeks of the regular semester. Qualified applicants will be subject to a 20 per cent tuition charge. To qualify for the refund the applicant must have withdrawn by completing proper forms in the Registrar's office.

Student Aids, Awards, Loans and Scholarsihps

The Honor Graduate Scholarship. The highest honor graduate of any affiliated high school is given a scholarship covering his tuition. This scholarship must be used within one year from the date of graduation.

The A.A.U.W. Women's Graduate Scholarship. The Tyler Branch of the American Association of University Women has established

an annual scholarship of $100 to be awarded to a woman graduate. The scholarship is awarded on the basis of scholarship, character, and need and is to be used for tuition and fees at the senior institution chosen by the student. The grantee is chosen by a scholarship committee of the A.A.U.W. from a list of three nominees by the college.

Art Merit Award. The Junior League of Tyler has established a $100 annual award to be granted to the student showing the greatest achievement in the field of art.

Alpha Delta Kappa Scholarship. The Tyler Teachers Honorary Sorority Alpha Delta Kappa has established an annual tuition scholarship for a student who plans to become a teacher. The scholarship is granted on the basis of ability and prospective success in the field.

The Crusaders Scholarship. The Crusaders Class of the Marvin Methodist Church awards an annual scholarship in the amount of $125 to a worthy and needy student.

The Advance Class Scholarship. The Advance Class of the Glenwood Methodist Church gives two full tuition-fee-books scholarships annually to selected students.

Granberry Pre-Dental Scholarship. Dr. James H. Granberry, an alumnus of Tyler Junior College, has established an annual scholarship covering tuition, fees, and books for a pre-dental student. The scholarship is granted at the end of the freshman year to such a student demonstrating high ability and need.

The Coterie Club. The Coterie Club, composed of musicians and music lovers, has established a scholarship which is awarded annually to a student who shows outstanding talent in music.

The Wilton Fair Endowment. Mr. and Mrs. Wilton Fair have established an endowment which is used each year for scholarships and similar purposes.

This endowment consists of the revenue from certain valuable oil properties deeded to the college. Mr. Fair, a former member of the Board of Trustees of Tyler Junior College and one of its most active supporters, and Mrs. Fair established this fund in 1952.

The Pirtle Scholarship in Science and Engineering. Through the generosity of Mr. and Mrs. George Pirtle an annual scholarship of five hundred dollars is bestowed upon a graduating student majoring in engineering or a physical science.

The Texas Society of Professional Engineers Scholarship in Mathematics, Science or Engineering. The Texas Society of Professional Engineers has established a five hundred dollar scholarship made to a graduating Tyler Junior College man or woman who plans to continue study leading to a degree in engineering, chemistry, geology, physics, or mathematics.

The scholarship is awarded on a competitive basis determined by scholarship, character, and need.

Opti-Mrs. Club Scholarship. The Opti-Mrs. Club, composed of the wives of the various Optimist Club members of Tyler, has established a $120 tuition scholarship for a sophomore student based upon ability and need. The student chosen must be a resident of the Tyler Junior College District.

The Mary Wallace Education Scholarship. A $120 annual scholarship for a second year student preparing for the teaching profession. The recipient must be of good character, pleasing personality, hold at least a B average in two semesters work and need scholarship aid.

The Tyler Legal Secretaries Association Scholarship. The Tyler Legal Secretaries Association has created an annual tuition scholarship for a woman resident of the Tyler Junior College District. The recipient must be in a Secretarial Training program. Preference is given to one who indicates a desire to become a Legal Secretary. Aptitude and need are considered.

The En Avant Club. The En Avant Club, a group of civic-minded young ladies, annually provides a scholarship to some young woman.

The Swanson Award. A prize of $100 is awarded by former Representative F. G. Swanson for an essay contest concerning a subject in the field of government.

John Tyler Parent-Teacher Association Work Scholarship. A John Tyler graduate whose parent has been a member of the Parent-Teacher Association is eligible for the John Tyler Parent-Teacher Association Work Scholarship on the basis of ability and need.

The recipient is eligible to receive $100 per year for the two-year Junior College period. In return the recipient will perform some assigned service for the College at the rate of $1 per hour. Application may be made through the High School Counselor.

The Optimist Club Oratorical Scholarship. The Optimist Club of

Tyler has established a $100 scholarship in Tyler Junior College for the winner of the annual oratorical contest.

The T. B. Butler Journalism Key. The T. B. Butler Publishing Company of Tyler annually presents a gold key to the outstanding Journalism student of the college.

Journalism Ex-Students Award. The Journalism Ex-Students Association annually awards a cash scholarship to an outstanding student majoring in Journalism.

The Watson W. Wise Incentive Award. An endowment fund established by the Honorable Watson W. Wise, President of the Board of Trustees of the college, who has made many generous gifts to the college, provides an annual sum for a beautiful trophy cup awarded to the student chosen by a faculty committee as the best exemplifying the virtues of industry, scholarship, and student activity.

The Henry King Kiwanis Scholarship. Through the generosity of Mr. Henry King, the Tyler Kiwanis Club annually provides a scholarship of up to one hundred fifty dollars. It is granted to a Smith County young man on the basis of ability and need.

Tyler Lions Club Scholarships. The Tyler Lions Club has established two annual scholarships of up to $250 each for students in Tyler Junior College. The scholarships are restricted to students whose legal residence is in the City of Tyler and who combine qualities of good character and scholarship with need. The scholarships are designed to pay for tuition, fees, and books. Students will be recommended by the College Scholarship Committee and designated by the Board of Directors of the Club.

The D.A.R. Scholarship. The Mary Tyler Chapter of the Daughters of American Revolution awards a $100 scholarship annually to an outstanding woman student who is completing her freshman year.

The Century Scholarship. The Century Class of ladies of the Marvin Methodist Church awards $120 annually to a local girl on the basis of character, ability and need.

Sales and Marketing Executive Scholarship. The Tyler Sales and Marketing Executive Club has established one or more scholarships for talented, deserving students entering college who intend to pursue a career in sales and marketing. These are awarded through the College Scholarship Committee.

Smith County Bar Association Scholarship. The Smith County Bar Association has established an annual scholarship of $150 which is granted to a student completing his freshman year and planning to major in History, Government or Economics or to one registered in a pre-law program of any kind.

The award is deposited with Tyler Junior College for the student's expenses in his second year. Outstanding scholarship and participation in extra-curricular activities are the basic qualifications upon which the choice is made. Need of the student is a secondary qualification.

The Texas Opportunity Plan Loans. Students who are residents of Texas may, if qualified, receive loans to cover expenses while attending Tyler Junior College provided by the Texas Opportunity Loan Fund of the State of Texas.

Mr. Gene Blakely is the official loan officer and applications should be made directly to him.

The Tyler City Council of Parents and Teachers Scholarship. The Tyler City Council of Parents and Teachers has established an annual scholarship not to exceed $200 or as much of that amount as is required for tuition, books, fees, etc.

The scholarship is granted to an outstanding and deserving boy or girl graduate of Robert E. Lee or John Tyler High School. Application for the scholarship may be made to the Counselor of the high schools, any member of the Scholarship Committee, or any of the Local Unit Presidents.

KLTV Television Scholarship. Tyler Television Station KLTV has established a cash scholarship of $780 for an outstanding journalism major at the beginning of the sophomore year. The purpose of the scholarship is to encourage bright young journalists in television. Eligibility for the award is determined upon recommendation of the college journalism department and a short trial period in the KLTV newsroom. The recipient has an additional opportunity for a part-time apprenticeship at the station.

Women's Symphony League Scholarship. The Tyler Women's Symphony League annually grants a $150 scholarship to an outstanding woman music student.

John Ben Sheppard Scholarship. The Texas Law Enforcement Foundation created the John Ben Sheppard Scholarship Fund to provide college educations for children of Texas law enforcement officials killed in performance of duty.

The fund makes college scholarships available for children of law enforcement officers on any level of jurisdiction killed in the performance of duty. The amount of a grant depends on the need of the student.

A Scholarship Committee composed of members of the board of directors of the Texas Law Enforcement Foundation will consider the following points in screening qualified scholarship applicants:

(1) Aptitude for college work, (2) Desire for college training, (3) Financial need.

Texas Law Enforcement Foundation Scholarships. The Texas Law Enforcement Foundation makes available scholarships for sons and daughters of deceased law enforcement officials. Application blanks for this or the John Ben Sheppard Scholarship may be obtained from the Foundation Office, 3914 Seminole, Houston 27, Texas.

Veterans' G.I. Bill of Rights. Veterans with military service since 1955 are eligible for federal payments and benefits while attending Tyler Junior College.

Mr. Herbert Richardson is the Veteran's Counselor, veterans may see him or phone him for information and assistance in applying for these benefits.

Veteran Dependency Scholarships. The Federal Government has set up provisions in Public Law 634 whereby certain veteran dependents may be eligible for a subsidy while pursuing their education. Orphans of service personnel and dependents of veterans with service connected disability may find themselves eligible.

Vocational Rehabilitation Assistance. The State Board of Vocational Education, through the Vocational Rehabilitation Division offers assistance for tuition to students who have physical disabilities, provided the vocational objective selected by the disabled person has been approved by a representative of the Division. Application for Vocational Rehabilitation assistance should be made to the Rehabilitation office, Box 2034, Longview, Texas, or to the Director of Vocational Rehabilitation, Texas Education Agency, Austin, Texas.

Student Activities

The Tyler Junior College provides various types of student activities which furnish training in leadership, afford opportunities for recreation, and serve as a means of student development. Among these activities are the following:

The Apache. The Apache is the college yearbook. It is an outstanding publication edited and published by a student staff.

The Apache Band. The famous Apache Band is the official college band, open to all qualified students.

The Apache Belles. The internationally famous Apache Belles is a uniformed women's organization which presents skilled group performances and routines at football games, and on other occasions.

Throughout the year special study is given to good taste in clothing, make-up, manners and general personal improvement.

The TJC Pow-Wow. The Pow-Wow, the official college newspaper, is prepared and managed by a student staff under the direction of faculty sponsors. Students act as reporters, editors, and business managers of this publication. The paper is furnished free to students.

For nineteen consecutive semesters the Apache Pow-Wow has won the highest award given by the Associated Collegiate Press. This award, The All American Honor Rating, is given in recognition of merit to a limited number of colleges and universities annually.

The Apache Guard Association. A service organization of college men dedicated to the development of college spirit and good sportsmanship. The association sponsors worthwhile projects.

Athletics. The college schedules intercollegiate competition in football, basketball, baseball, tennis, golf, track and field events. For non-varsity students an extensive schedule of intramural sports and the physical education program affords all students many opportunities for participation.

The Singing Apaches. The Singing Apaches is a choral society open to capable students interested in vocal music.

The Engineers' Club. This club is composed of students interested in all fields of engineering. Various field trips are taken to indi-

cate the future possibilities of the different branches of the engineering profession.

Sigma Sigma. This organization consists of students preparing to enter the business vocations, such as secretarial and clerical. It provides helpful guidance to the members of the club, as well as pleasant social activities.

The French Club. Le Cercle Francais welcomes students who are interested in France, the French language, and in the French way of life. Bi-weekly business meetings are conducted and its members gather socially one night each month for films, refreshments, and other recreational activities.

Las Mascaras Dramatic and Forensic Club. Las Mascaras fosters an interest in all phases of forensic and dramatic art. Any student in Tyler Junior College who is interested in them is eligible for membership. Las Mascaras sponsors major dramatic productions and forensic competitions each year.

Phi Theta Kappa. The Alpha Omicron Chapter of Phi Theta Kappa, the national Junior College scholastic fraternity, is composed of members selected on the basis of scholarship, character, leadership and service. Its membership is restricted to ten percent of the students enrolled in the Tyler Junior College, and the faculty and local chapter name as members those students meriting special honor.

The Student Senate. The Student Senate is the official organization for student government.

Social Activities. The social activities of the college include parties, dances, feature movies and other social affairs under the direction and management of the Student Senate and a faculty committee headed by the Dean of Student Life.

SUGGESTED COURSES OF STUDY FOR FRESHMEN

The following plans are a few of the most popular fields and their listing does not indicate that others cannot be taken. College officials will work out degree programs in any desired field.

Since college plans differ, the student should check his course by the catalogue of the college to which he intends to transfer or request the Registrar or Dean to assist him in doing so.

All students may take Physical Education although they are not required to do so.

Agriculture. (Texas A. & M. Plan. Special course plans for other institutions will be arranged.)

SUBJECT	CREDIT
English	6 semester hours
Chemistry	8 semester hours
Algebra	3 semester hours
Biology 124 B	4 semester hours
Agriculture	6 semester hours
United States History	6 semester hours
Orientation 110	
Physical Training	

Bachelor of Arts or Bachelor of Science Degree.

English	6 semester hours
Mathematics	6 semester hours
United States History	6 semester hours
Natural Science	6 or 8 semester hours
Foreign Language	8 semester hours
Orientation 110	
Physical Training	

Bachelor of Business Administration. (General Plan)

Mathematics	6 semester hours
English	6 semester hours
Natural Science	6 or 8 semester hours
Speech	3 semester hours
United States History	6 semester hours
Typewriting (non-credit)	0 semester hours
Elective	3 semester hours
Orientation 110	
Physical Training	

Dentistry.

English ..... 6 semester hours
Chemistry ..... 8 semester hours
Biology ..... 8 semester hours
United States History ..... 6 semester hours
Elective ..... 3 semester hours
Orientation 110
Physical Training

Elementary Education Major.

English ..... 6 semester hours
Mathematics or Foreign Language.....6 or 8 semester hours
United States History ..... 6 semester hours
General Biology ..... 8 semester hours
Music or Art ..... 6 semester hours
Orientation 110
Physical Training

Secondary Education Major. The plan is the same as the above except music or art is not required unless the student plans to major in one of these fields. Others should substitute subjects in the chosen major fields for music or art.

Engineering plans call for Algebra and Trigonometry to be taken prior to admission to the program. It is recommended that, if needed, these be taken in summer school. Any deficiency from high school may be made-up in college, but the normal schedule is reduced to that extent.

Engineering.

English ..... 6 semester hours
Chemistry ..... 8 semester hours
Engineering Drawing ..... 2 semester hours
Descriptive Geometry ..... 2 semester hours
Analytic Geometry ..... 3 semester hours
Calculus ..... 6 semester hours
Engineering Mechanics ..... 3 semester hours
American History ..... 3 semester hours
Orientation 110
Physical Training

Forestry.

English ..... 6 semester hours
Algebra ..... 3 semester hours
Biology ..... 8 semester hours
Trigonometry ..... 3 semester hours
Engineering Drawing ..... 3 semester hours
Descriptive Geometry ..... 3 semester hours
United States History ..... 6 semester hours
Orientation 110
Physical Training

Geology.

English ..... 6 semester hours
Chemistry ..... 8 semester hours
Trigonometry ..... 3 semester hours
Algebra ..... 3 semester hours
Analytic Geometry ..... 3 semester hours
Geology ..... 8 semester hours
Orientation 110
Physical Training

Home Economics.

English ..... 6 semester hours
Chemistry .....6 or 8 semester hours
Home Economics .....6 or 9 semester hours
Electives ..... 6 semester hours
United States History ..... 6 semester hours
Orientation 110
Physical Training

Law.

United States History ..... 6 semester hours
English ..... 6 semester hours
Natural Science ..... 8 semester hours
Mathematics ..... 6 semester hours
Public Speaking ..... 6 semester hours
Orientation 110

Typewriting (non-credit, if taking the Business Administration Plan) ..... 0 semester hours
Physical Training

Medicine. (Associate Degree Plan)

English ..... 6 semester hours
Chemistry ..... 8 semester hours
Algebra ..... 3 semester hours
Foreign Language ..... 8 semester hours
United States History ..... 3 semester hours
Biology ..... 8 semester hours
Orientation 110
Physical Training

Music.

Bachelor of Music Degree

Freshman Year

Music 113T, 123T ..... 6 hours
Music 113L, 123L ..... 6 hours
Applied Music ..... 8 hours
Musical Organizations ..... 2 hours
English 113, 123 ..... 6 hours
Electives ..... 6 hours
Orientation 110
Physical Training

Sophomore Year

Music 213T, 223T ..... 6 hours
Music 212T, 222T ..... 4 hours
Applied Music ..... 8 hours
Musical Organizations ..... 2 hours
English 213, 223 ..... 6 hours
Electives ..... 6 hours

Professional Nursing. The Tyler Junior College cooperates with the Texas Eastern School of Nursing by teaching under contract the first two nine-month academic years of the required three-year course of study leading to eligibility to take the State examinations for registration as a professional nurse with the title of R. N.

After the required course in Tyler Junior College, the student completes the summers and third year in the Texas Eastern School of Nursing, an independent, incorporated State-approved nursing school in Tyler.

The following is the curriculum in Nursing for the first two academic years as taught in Tyler Junior College:

First Year — First Semester.

English 113	3 semester hours
Biology 113B	3 semester hours
Biology 114A	4 semester hours
Chemistry 113	3 semester hours
Psychology 213	3 semester hours
Nursing 112	2 semester hours

First Year — Second Semester.

English 123	3 semester hours
Biology 123B	3 semester hours
Chemistry 123	3 semester hours
Sociology 213	3 semester hours
H. E. 123C	3 semester hours
Nursing 122	2 semester hours

First Year — Summer (1st 6 weeks).

Nursing 113	3 semester hours
Pharmacology 114	4 semester hours

First Year — Summer (2nd 6 weeks).

Nursing 123	3 semester hours
Nursing 112*	2 semester hours
Nursing 122*	2 semester hours

Second Year — First Semester.

Nursing 213	3 semester hours
Nursing 216	6 semester hours
Psychology 223A	3 semester hours
History 213	3 semester hours
Government 213	3 semester hours

Second Year — Second Semester.

Nursing 226	6 semester hours
Nursing 223	3 semester hours
History 223	3 semester hours
Government 223	3 semester hours

*This will be offered at this time only for transfer students who have not had Introduction to Nursing during the fall and spring semester.

Pre-Nursing Baccalaureate Degree Plan—Freshman Year.

English ..... 6 semester hours
United States History ..... 6 semester hours
Biology ..... 8 semester hours
Psychology ..... 3 semester hours
Chemistry ..... 6 semester hours
Sociology ..... 3 semester hours
Orientation 110
Physical Training

Optometry.

English ..... 6 semester hours
Physics ..... 8 semester hours
Chemistry ..... 8 semester hours
Biology ..... 8 semester hours
Mathematics ..... 6 semester hours
Orientation 110
Physical Training

Pharmacy.

English ..... 6 semester hours
Biology ..... 8 semester hours
Physics ..... 8 semester hours
Chemistry ..... 8 semester hours
United States History ..... 6 semester hours
Orientation 110
Physical Training

Journalism.

English ..... 6 semester hours
Natural Science .....6 or 8 semester hours
Foreign Language ..... 8 semester hours
Mathematics ..... 3 semester hours
Journalism ..... 3 semester hours
United States History ..... 6 semester hours
Orientation 110
Physical Training

ONE YEAR BUSINESS AND COMMERCIAL COURSES

For business students interested in an intensive business course, the Certificate of Proficiency is awarded either in secretarial science, electronic data processing, or general business, upon completion of 30 semester hours of work. These courses are planned to train the student for work in an office. All courses listed under the suggested plan are required.

Secretarial Course

Shorthand 114S - 124S or Shorthand 214S - 224S	8 semester hours
Typewriting 213T - 223T*	6 semester hours
Secretarial Practice 113F - 123F	6 semester hours
Office Machines 113M	3 semester hours
Business Correspondence 113C	3 semester hours
Business Mathematics 113D	3 semester hours
Secretarial Accounting 123	3 semester hours
Orientation 110	
Physical Training	

* Students who have not developed some skill in typewriting cannot do secretarial practice nor shorthand.

General Business Course (1 year)

Typewriting 113T-123T or 213T-223T	6 semester hours
Accounting 214-224	8 semester hours
Electronic Data Processing 113-123 or Economics 213-223	6 semester hours
Introduction to Business 113B	3 semester hours
Business Mathematics 113D	3 semester hours
Business Correspondence 113C	3 semester hours
Business Machines 113M	3 semester hours
Orientation 110	
Physical Training	

Electronic Data Processing

English 113-123 or 223B	6 semester hours
Introduction to Business 113B	3 semester hours
Mathematics 113	3 semester hours
Accounting 214-224	8 semester hours
Business Machines 113M	3 semester hours
Electronic Data Processing 113-123	6 semester hours
Speech 113A	3 semester hours
Orientation 110	
Physical Training	

SUGGESTED ASSOCIATE IN BUSINESS ADMINISTRATION DEGREE PLANS.

Secretarial Plan — Freshman Year

English 113-123 or 223B ..... 6 semester hours
Shorthand 114S-124S or 214S-224S ..... 8 semester hours
Typewriting 113T-123T or 213T-223T ..... 6 semester hours
Secretarial Practice 113F-123F ** ..... 6 semester hours
History 213-223 ..... 6 semester hours
Orientation 110
Physical Training

Secretarial Plan — Sophomore Year

Shorthand 214S-224S or
Executive Secretaryship 223F* .....3 or 8 semester hours
Business Mathematics 113D ..... 3 semester hours
Secretarial Accounting 123 ..... 3 semester hours
Business Machines 113M ..... 3 semester hours
Business Correspondence 113C ..... 3 semester hours
Government 213-223 ..... 6 semester hours
Electives (Electronic Data Processing 113-123 or
Economics 213-223 recommended) 6 or 9 semester hours

General Business Plan — Freshman Year

English 113-123 or 223B ..... 6 semester hours
Shorthand 114S-124S or Elective .....6 or 8 semester hours
Introduction to Business 113B ..... 3 semester hours
Typewriting 113T-123T
or Typewriting 213T-223T ..... 6 semester hours
Business Mathematics 113D ..... 3 semester hours
History 213-223 ..... 6 semester hours
Orientation 110
Physical Training

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* For those who took Shorthand 214S - 224S in their first year.

** Students without typing skill should substitute BA 113D and BA 123.

General Business Plan — Sophomore Year

Accounting 214-224	8 semester hours
Business Correspondence 113C	3 semester hours
Business Machines 113M	3 semester hours
Government 213-223	6 semester hours
Economics 213	3 semester hours
Speech 223A	3 semester hours
Electronic Data Processing 113-123	6 semester hours
Physical Training	

Electronic Data Processing Plan — Freshman Year

English 113-223B	6 semester hours
Introduction to Business 113B	3 semester hours
Mathematics 113	3 semester hours
Electronic Data Processing 113-123	6 semester hours
Typewriting 113T-123T	6 semester hours
History 213-223	6 semester hours
Orientation 110	
Physical Training	

Electronic Data Processing Plan — Sophomore Year

Electronic Data Processing 213-223	6 semester hours
Economics 213-223	6 semester hours
Accounting 214-224	8 semester hours
Government 213-223	6 semester hours
Office Machines 113M	3 semester hours
Speech 223A	3 semester hours

Description of Courses

For a description of the system of numbering of courses, see page 20 of this catalogue.

Agriculture Courses with the Asterisk are offered in 1967-68.

Agriculture 113 — General Animal Husbandry (2-2) An introductory survey course intended to acquaint the student with the importance of livestock and livestock farming. General factors influencing efficiency in feeding, market value, breeding, health and adaptability of various species to geographical and climatic regions are studied. The course is designed to develop in the student an appreciation of improved livestock. Selecting and judging the various breeds and market classes are stressed in laboratory.

Agriculture 114A — General Entomology (3-2) The systematic study of the principal orders of insects; the relation of the anatomy of the insect to control measures; the life histories of the more common insects; methods of control for injurious forms.

***Agriculture 113B — Dairying (2-2)** Dairying in its relation to agriculture and community development; branches of dairy industry and conditions affecting their development; the place of dairying on the farm; composition and food value of milk and its products; the production and handling of clean milk on the farm.

***Agriculture 113C — Poultry Production (2-2)** The breeds and types of poultry, culling, poultry for egg production, incubation, brooding and feeding for growth and egg production, winter and summer management, housing and hygiene, preparing poultry for market, methods of marketing; practical application of these subjects to general farm conditions. The practice consists of the identification of breeds and varieties, judging, poultry for egg production, plans for poultry farms and poultry houses, identification of feeds.

Agriculture 123 — Fundamentals of Crop Production (2-2) Classification and distribution of farm crops; importance of good varieties and good seed; crop improvement; preparation of the seed bed, commercial fertilizers, manures and lime; seeding practices; crop tillage; harvesting; meadow and pasture management; weeds; crop rotation; diseases and insect enemies.

Agriculture 123D — Wildlife Management (3-0) A course designed to acquaint the student with the wildlife resources of the United States with special reference to Texas. Emphasis is placed on the inter-relationship of plants and animals in our environment with plans and methods for rehabilitation, maintenance and increase of the desirable species.

***Agriculture 123B — Horticulture (2-3)** A general study of horticulture; the growth and fruiting habits of horticulture plants; a study of the principles and practices of propagating vegetables, fruits and ornamentals, including the methods of handling seed, cuttage, layerage, grafting, budding and bulbs; a study of the planting, fertilization, care, culture, harvesting, handling and utilization of fruit and vegetable crops. Prerequisite: Biology 114B or taken concurrently.

***Agriculture 123C — Marketing of Agriculture Products (3-0)** A study of the general principles, practices, and problems involved in marketing farm products.

Art

Art 113 — Creative Design (2-4) Fundamental experience with various materials; emphasis upon the development of an awareness of the factors of visual expression, color, form and design.

Art 113A — Home Planning and Furnishing (Interior Decoration) (3-0) This course includes a study of floor plans in relation to the work units and furnishings of the home and the selection and placing of furnishings suited to the modern home.

Art 113B — Theory and Practice of Design (2-4) A basic course in the fundamentals of color and form with emphasis on oils.

Art 113C — Freehand Drawing (3-3) A course designed to acquaint the student with the principles of freehand drawing with special emphasis on life drawing in charcoal and other media.

Art 123 — Creative Design (2-4) A basic course in the fundamentals of color and drawing in design.

Art 123B — Theory and Practice of Design (2-4) A continuation of Art 113B with emphasis upon still life and the human figure.

Art 123C — Freehand Drawing (3-3) A continuation of Art 113C. Prerequisite Art 113C.

Art 114B — Elementary Design (2-4) Materials, techniques and media for Creative Art at the elementary level. May not be counted by art majors.

Art 124B — Elementary Design (2-4) A continuation of Art 114B. May not be counted by art majors.

Art 213 — History of Art I (3-0) A survey of the development of architecture, sculpture, painting and the minor arts from prehistoric time to the end of the Middle Ages. An analysis of art elements as applied to various forms of visual expression and an examination of characteristic styles as related to period cultures. Illustrated lectures.

Art 223 — History of Art II (3-0) A survey of the development of the arts and architecture in western Europe and America from the Renaissance through the twentieth century. Illustrated lectures.

Bible

These courses are given by affiliation with the Baptist Chair of Bible, the Bible Chair of Texas Methodist Student Movement, The Fifth Street Presbyterian Bible Chair, and the Church of Christ Bible Chair. A maximum of twelve semester hours is accepted toward a degree.

Bible 111 — Selected Studies in the Old Testament (1-0) A brief course of study involving either an Old Testament book or theme.

Bible 111A — Selected Studies in the New Testament (1-0) A brief course of study involving either a New Testament book or theme.

Bible 111B — Selected Studies in Church History (1-0) A brief course of study involving either a general synopsis of Church History, a particular era of Church History, or a History of the Bible.

Bible 111C — An Introduction to Christianity (1-0) A brief course of study involving theological terms, great Bible themes, and a comparison of Christianity with other religions.

Bible 113 — Old Testament Survey (3-0) A study of all the books of the Old Testament giving attention to the historical setting, the message, and the place of each book in its relation to the Bible as a whole.

Bible 123 — New Testament Survey (3-0) A study of all the books of the New Testament as to author, message, and relation to the entire Bible.

Bible 213 — Life and Teachings of Jesus (3-0) A study of the life of Jesus and His teachings as applied to present-day life.

Bible 223 — Life and Teachings of Paul (3-0) A study of the life and teachings of Paul and their part in the early spread of Christianity.

Biology

Biology 114 — Animal Biology (3-3) An introductory study of the nature of protoplasm and the structure and function of cells is followed by a survey of the animal kingdom, with emphasis on such forms as are of human interest or application. There follows a study of adaptations in selected types as a basis for a consideration of the origin of species and the principles of organic evolution. This course may be followed, or preceded, by Biology 124B by students desiring a year of general biology; it should be followed, or preceded, by Biology 124 by those desiring general zoology.

Biology 124 — Animal Biology (3-3) A study of organ systems of vertebrates, with special reference to man, followed by an introduction to embryology and to the basic principles of heredity.

Biology 124B — General Botany (3-3) An introduction to the plant kingdom with emphasis on the importance of plants to man.

Biology 113B — Anatomy and Physiology (2-2) A study of the anatomy and physiology of the human body. It emphasizes biological principles as applied to vertebrates in general and man in particular.

Biology 123B — Anatomy and Physiology (2-2) A continuation of Biology 113B.

Biology 114A — Microbiology (3-2) The characteristics and activities of microorganisms and their relation to health and disease.

Biology 224 — Comparative Vertebrate Anatomy (3-4) A comparative study of the morphology, physiology, and phylogenesis of vertebrate organ systems. Required of predental, premedical and biology majors. Prerequisite: Biology 114 and 124 or 124B.

Business Administration and Data Processing

Business Administration 113 — Oil and Gas Law (3-0) A course designed for workers in petroleum production, leasing, scouting and other oil industry activities.

Business Administration 113B — Introduction to Business (3-0) A general business course designed to give the student an understanding of the fundamental principles of business operation.

Business Administration 113C — Business Correspondence (3-0) A study of grammar, punctuation, sentence structure, paragraphing and composition of business letters.

Business Administration 113D — Business Mathematics (3-0) This course covers the simpler exercises and problems of every-day business calculations—including such topics as the use of aliquot parts, practice on short methods of calculation, fractions, percentage, interest and discount, bonds, depreciation, social security, taxes, property taxes, insurance and stocks.

Business Administration 113M — Office Machines (3-0) A course planned to develop in the student a working knowledge of a variety of calculating machines, the dictaphone, the mimeograph, the billing machine, the comptometer and the bookkeeping machine.

A student may arrange to specialize on a particular machine.

Business Administration 113F-123F — Secretarial Practice (3-2) A course designed for students who are interested in the secretarial field. It covers speed dictation, transcriptions, office ethics, duplicating, office machines, filing and postal information; practice is given in interviewing callers, attending business conferences, and in telephone technique. Typing skill is a prerequisite for this course.

Business Administration 113S-123S — Elementary Shorthand (2-6) Detailed study of principles of Gregg Shorthand by Simplified Functional Method. Special attention is given to word signs, special forms, phrase writing and rapid reading of shorthand. In the second semester emphasis is given to readiness and accuracy in transcription.

Two hours lecture, two hours laboratory, and at least six hours outside work per week is required.

Business Administration 114S-124S—Elementary Shorthand (3-2) (3-7) Detailed study of principles of Gregg Shorthand by Simplified Functional Method. Special attention is given to word signs, special forms, phrase writing, and rapid reading of shorthand.

No credit in shorthand is granted until proper efficiency in typewriting is demonstrated. Students must attain a typing speed of at least sixty words per minute with not more than five errors in order to receive credit in Shorthand 124S.

In the second semester there is continued study and review of the principles of shorthand. Dictation and transcription of new matter with emphasis upon readiness and accuracy in transcription. One year of typewriting is recommended.

Business Administration 113T-123T — Typewriting (1-4) A beginner's course in typewriting. Exercises for the mastery of the keyboard by the touch system, instruction in the care of the machine, study of form and arrangement of simple business letters, and simple centering.

Typewriting problems in addressing envelopes, writing business, letters, tabulation, manuscript writing, and legal document writing.

Business Administration 123 — Secretarial Accounting (3-0) A study of the fundamentals of double-entry bookkeeping and their direct application to various business and professions — insurance, law, service operations, medicine, retail stores, and corporations — including the analysis of accounts and the preparation of accounting statements.

Business Administration 213-223—Intermediate Accounting (3-3) Financial accounting principles, including treatment of working papers in the advanced stages. Advanced partnership accounting problems dealing with organizations, entrance of new partners, dissolution, and equities. Further study of Corporate Accounting for organization, capital stock, investments, analysis of statements.

Second Semester — Special topics involving problems of consolidation, preparation of consolidated statements, problems in equity with reference to control, branch accounting, fiduciary, and other special types of statements and their analysis.

Prerequisite: Business Administration 123.

Business Administration 223F — Executive Secretaryship (2-3) A course which analyzes the many diversified responsibilities of an executive secretary as an office supervisor.

This study emphasizes the secretarial alertness to office problems, as well as the awareness of modern techniques in office management, case studies of secretarial procedure in the different business organizations, and the application of business ethics and office etiquettes.

This course is primarily designed for those sophomore secretarial students who have credit for college secretarial practice (B. A. 113F and B. A. 123F) and advanced college shorthand (B. A. 214S and B. A. 224S) during the freshman year.

Other students may be admitted with consent of the business faculty.

Business Administration 213L — Business Law (3-0) Fundamentals, contracts, agency, negotiable instruments, property, and real estate. General principles involving law or bailments, sales, conditional sales, agency, negotiable instruments as they appear in actual cases illustrating practical business problems.

Business Administration 214S-224S — Advanced Shorthand and Office Procedure (3-7) Continued study and review of the principles of shorthand. Emphasis on speed building and transcription.

In the second semester emphasis is on taking dictation at very high rates of speed. Dictation is given in the legal, medical and other technical fields as well as general office routines.

Business Administration 214-224 — Elementary Accounting (3-3) The principles of accounting for a single proprietorship organization. A study of the accounting equation, business transactions, business papers, ledgers, books of original entry, classifications and interpretation of accounts and statements, valuation accounts, accrued and deferred items, and the accounting cycle.

Second Semester—Accounting for partnership and corporate business enterprises. A study of the characteristics of each organization, formation, dissolution, and liquidation.

Prerequisite: Sophomore standing.

Business Administration 213T - 223T — Advanced Typewriting Problems (1-4) This course includes business reports, business documents, legal documents, tabulation, statistical material, manuscripts, cutting stencils, various forms of business letters and a continued emphasis upon typing speed and efficiency.

Prerequisite: Business Administration 114T - 124T.

E.D.P. 113 — Electronic Data Processing (3-3) An over-all survey of the function of IBM Unit Record equipment to include 024, 082, 514, 085, 402, 548. Control panel wiring will be included in this course. Rental Fee $15.00.

Electronic Data Processing 123 — Computer (3-3) A study of the electronic computer and its use in the solution of business problems. The input, output, memory, arithmetic, control and stored program concepts of digital computers will be studied. Basic programming techniques for the IBM 1620 data processing system will be studied. Rental fee $15.00. Prerequisite: E.D.P. 123 or consent of instructor.

Electronic Data Processing 211 — Computer Language (1-0) An introduction to programming to familiarize the student with computer approaches to solving mathematical and business problems. Emphasis on solution of problems through use of Fortran Language.

Electronic Data Processing 213 — Computer (3-3) A study of the basic programming techniques and actual program writing for the IBM 1401 computer system. Autocoder and Fortran languages will be studied. Rental fee $15.00. Prerequisite E.D.P. 123 or consent of the instructor.

Electronic Data Processing 223 — Computer (3-3) A study of programming techniques using Cobol and R. P. G. languages. Sophisticated program writing for the IBM 1401 computer system. Rental fee $15.00. Prerequisite E.D.P. 123 or consent of the instructor.

Chemistry

Chemistry 113 — Introductory Chemistry (3-2) Non-technical course which meets the needs of those who do not expect to specialize in science, engineering or medicine. The course content is devoted to a survey of the principles of inorganic chemistry.

Chemistry 123 — Introductory Chemistry (3-2) A continuation of Chemistry 113. Subject matter includes an introduction to the fields of organic and biochemistry. Prerequisite: Chemistry 113.

Note: Chemistry 113-123 cannot be substituted for Chemistry 114-124 in meeting prerequisites in scientific curricula. Chemistry 113-123 and Chemistry 114-124 may not both be counted for credit.

Chemistry 114 — General Chemistry (3-4) A course serving the prerequisite requirement for engineering, medicine, dentistry, and other professional courses requiring advance work in chemistry. Lectures, demonstrations, and laboratory work sufficient for an understanding of fundamental principles. Laboratory work includes introduction to quantitative and volumetric analysis.

Chemistry 124 — General Chemistry (3-4) A continuation of Chemistry 114, requiring study of equilibrium, acid-base concepts, and qualitative analysis. Prerequisite: Chemistry 114.

Chemistry 214 — Organic Chemistry (3-4) An introduction to the chemistry of the compounds of carbon for science majors. The reactions of aliphatic and aromatic compounds are considered in terms of carbonium ion, carbanion and free radical reaction mechanisms. Sterechemistry and molecular conformations are also considered. Laboratory work offers opportunity for the student to familiarize himself with reactions, properties, and relations of typical organic compounds. Prerequisite: Chemistry 124.

Chemistry 224 — Organic Chemistry (3-4) A continuation of Chemistry 214, requiring study of carboxylic and sulfonic acids, amines, ethers and phenols. Carbonyl and polyfunctional compounds are also considered. Prerequisite: Chemistry 214.

Earth and Space Studies

Geology 114 — General Geology (3-3) Physical geology processes modifying the earth's surface; materials and features of the earth's crust. Laboratory work in cartography, mineralogy, and petrology.

Geology 124 — General Geology (3-3) Historical geology; the history of the earth through geologic times as revealed by rocks and fossils; the origin and development of plant and animal life. Laboratory work in paleontology.

Prerequisite: Geology 114.

Astronomy 113 — A Survey of Astronomy (3-0) The main features of the known universe and the principles involved in their discovery. A non-mathematical survey recommended for all students.

Astronomy 123 — A Survey of Astronomy (3-0) A continuation of Astronomy 113.

Meteorology 113 — Meteorology (3-0) The science of Meteorology presented concisely and systematically in its present state of development. The primary purpose is to set forth the facts and principles concerning the behavior and responses of the atmosphere.

Geology 213 — Mineralogy (2-8) Introductory Course in the study of minerals, including elements of crystallography; determination of the common minerals by their physical properties.

Prerequisite: Trigonometry, Geology 124, and Chemistry 114.

Geology 223 — Petrology (2-4) Origin, mode of occurrence, and determination of the common types of igneous, sedimentary, and metamorphic rocks.

Prerequisite: Geology 213.

Geology 223A — Invertebrate Paleontology (2-4) Invertebrate, phyla; sponges, coelenterate, echinodermata, brachiopods, mollusks, and arthropods, stratigraphic and evolutionary paleontology.

Prerequisite: Geology 114-124. Two lectures and four lab hours a week.

Geography 213 — Economic Geography (3-0) A study of the relationship of man to his environment; problems of production, manufacture, and distribution of goods in the various regions of the world.

Geography 223 — World Geography (3-0) The earth, its climatic regions; the relation of human activities to physical environments; major cultural divisions and selected regions and countries.

Economics

Economics 213 — Principles of Economics (3-0) An examination of fundamental economic concepts and principles.

Prerequisite: Sophomore standing.

Economics 223 — Economic Problems (3-0) A study of contemporary economic issues and problems.

Prerequisite: Sophomore standing.

Education

Education 113* — Introduction to Educational Psychology (3-0) An introductory study of mental life and the psychological prin-

ciples underlying motivation, behavior, individual differences, and the learning processes.

Education 123* — Introduction to Education (3-0) A brief survey of the general field of education brought out through a study of the evolution of the present-day public school and its practices.

* Education 113-123 are not required for teacher certification in Texas. They are excellent electives and remain on the required list in other states.

Engineering

Engineering 112 — Engineering Drawing (2-2-2) Lettering, free-hand and instrument drawings, shape and size description, pictorial drawings, charts and graphs, line value and lettering to be stressed throughout the course.

Two lectures, two hours of supervised drafting, and two hours of home work per week.

Engineering 122 — Descriptive Geometry (2-2-2) Auxiliary and oblique views, point, line and plane problems. Development, intersection, highway, geology, and mining problems with emphasis on line value and proper lettering throughout the course.

Two lectures, two hours of supervised problems, and two hours of home work per week.

Prerequisite: Engineering Drawing and Solid Geometry or Trigonometry.

Engineering 213 — Engineering Mechanics (3-0) Newton's laws, work-energy and impulse-momentum principles for particles; force resultants, introductory rigid body statics.

Prerequisite: Credit or registration for Mathematics 223A.

Engineering 223A — Engineering Mechanics (3-0) Newton's laws, work-energy, impulse-momentum principles for rigid bodies static and dynamic friction.

Prerequisite: Engineering 213 and Mathematics 223A.

Engineering 223B — Strength of Materials (3-0) Analysis of stress and strain; riveted and welded joints; flexure and deflection of beams, shafts, columns; physical properties of materials.

Prerequisite: Engineering 213 and Mathematics 223A.

English and Journalism

English 113 — Composition and Rhetoric (3-0) The development of the student's ability to think for himself and to express his thoughts in correct, clear language. A study of literature in order to encourage reading.

English 123 — Composition and Rhetoric (3-0) Further training in thinking and the ordering of thoughts by the study of the types of composition. Prerequisite: English 113.

English 213 — English literature (3-0) A survey course using selections from an anthology to emphasize trends in English literature. Advanced composition.

Prerequisite: English 123.

English 223 — English Literature (3-0) The survey of English literature. Advanced composition. Prerequisite: English 123.

English 223B — Technical Report Writing (3-0) Techniques of verbal efficiency in the various media of engineering and scientific communications, with stress on report and research-report preparation, letters and resumes. Required in technological and engineering plans.

Journalism 113 — Mass Communications (3-2) (3-2) An introduction to journalism designed to give the student an understanding of the media of mass communications in modern society and the career opportunities in the field. Laboratory: Two hours per week for non-majors, three hours per week for majors. Advertising majors may not count this course for degree credit unless taken in the freshman year.

Journalism 213 — General Reporting (3-2) Instruction and practice in interviewing and writing news stories: discussion of news values, news source, and principles of writing for newspaper, radio, TV. Laboratory: two hours per week.

Prerequisites: Thirty hours college credit including at least a C average in freshman English. Credit in high school or college typing or registration in college typing.

Journalism 223 — General Reporting (3-2) Emphasis on handling types of news stories such as meetings, speeches, interviews, deaths, accident and disaster, police and court matters. Introduction to feature and editorial writing. Laboratory: two hours per week.

Prerequisite: Same as for Journalism 213.

English 111 — Developmental Reading (1-1) This course emphasizes the development of basic comprehension skills in reading. It is designed for students who desire increased reading skills. Training will be given in overcoming the weaknesses of individual students and in increasing the speed of reading.

Foreign Language

French 113-123 — Conversational French (3-0) For students who have never studied French. Conversational approach including fundamentals of grammar, readings, and emphasis on oral and written composition.

French 114 — Beginner's French (3-2) Drill in the pronunciation and the grammar of the French language with written exercises, dictation and conversation in French.

French 124 — Composition and Reading (3-2)

Prerequisite: French 114 or two admission units in French from high school.

French 213-223 — Oral Expression, Reading & Composition (3-0) Outside readings assigned from French masters. Prerequisite: French 124 or three or four admission units in French from high school.

Spanish 113-123 — Conversational Spanish (3-0) For students who have never studied Spanish. Conversational approach including fundamentals of grammar, readings, and emphasis on oral and written composition.

Spanish 114 — Beginner's Spanish (3-2) Drill in the pronunciation and the grammar of the Spanish language with written exercises, dictation and conversation in Spanish.

Spanish 124 — Composition and Reading (3-2)

Prerequisite: Spanish 114 or two admission units in Spanish from high school.

Spanish 213-223 — Oral Expression, Reading & Composition (3-0) Outside readings assigned from Spanish masters. Prerequisite: Spanish 124 or three or four admission units in Spanish.

German 113-123 — Conversational German (3-0) For students who have never studied German. Conversational approach including fundamentals of grammar, readings, and emphasis on oral and written composition.

German 114 — Beginner's German. (3-2) Drill in the pronunciation and the grammar of the German language with written exercises, dictation and conversation in German.

German 124 — Composition and Reading (3-2)

Prerequisite: German 114 or two admission units in German from high school.

German 213-223 — Oral Expression, Reading and Composition (3-0) Outside readings assigned from German masters.

Prerequisite: German 124 or three or four admission units in German.

Government

Government 213 — American Government (3-0) A functional study of the American constitutional governmental system, of the origins, developments and present-day problems of the national government, of the rights, privileges and obligations of citizenship.

Prerequisite: Sophomore standing.

Government 223 — National and State Government (3-0) The nature, organization, and general principles of local government in the United States, with special attention to these forms in Texas; the judicial, executive, and administrative functions in federal and state government; financing governmental activities.

Prerequisite: Sophomore standing.

History

History 113 — History of England (3-0) Survey of the social economic, political, and intellectual development of Britain from the prehistoric period through the fifteenth century.

History 123 — History of England (3-0) Continuation of History 113. Survey of the social, economic, political, and intellectual development of Britain and the British Empire to the present.

History 113A — Western Civilization in Mediaeval Times (3-0) A survey course in the cultural and institutional development of the nations of western Europe through the sixteenth century.

History 123A — Western Civilization in Modern Times (3-0) Continuation of History 113A. A survey course in the cultural and institutional development of the nations of western Europe from the sixteenth century to the present time.

History 213 — History of the United States (3-0) A general survey of the history of the United States from the era of discovery to the Civil War.

History 223 — History of the United States (3-0) A general survey of the history of the United States from the Civil War to the present time.

Home Economics

Home Economics 113A — Principles of Food Selection and Preparation (2-4) Fundamental principles in the selection and preparation of foods; nutritive values; cost of foods.

Home Economics 123A — Meal Management (2-4) For majors in Home Economics, hotel or restaurant management. Planning, managing, and serving meals suitable for family groups for all occasions. Selection and use of table appointments.

Home Economics 113B — Costume Design and Selection (2-4) Fundamental principles of design and color applied to the selection and planning of appropriate dress. Emphasis on line, color, and texture in relation to the individual, with laboratory application.

Home Economics 113C — Textiles (2-2) The study of fibers, fabrics, and finishes for application in choices of fabrics for clothing and home furnishings.

Home Economics 123B — Clothing (2-4) Fundamental principles of selection and construction of clothing. Use and alteration of commercial patterns. Problems selected according to the ability and learning experience of the student.

Home Economics 123C — Nutrition (2-2) Fundamental principles of human nutrition applied to the individual, family, and community nutrition problems. Chemistry, physiology and economics of nutrition.

Mathematics

The Mathematics program in Tyler Junior College is especially designed to meet the varying needs, backgrounds and abilities of its students. Courses are arranged to cover the fields of technological applied mathematics, liberal arts, business and engineering.

Engineering schools no longer allow credit for algebra and trigonometry taken at the college level. In order to go directly into analytic geometry and calculus, certain safeguards have been arranged. Students are permitted to proceed in the advanced mathematics if they meet the following prerequisites:

For Analytic Geometry (Mathematics 123A):

1. Credit in College Algebra (Mathematics 113-A) and Trigonometry (Mathematics 113B), or
2. A satisfactory score on an advanced mathematics test.

For Calculus (Mathematics 213):

1. Credit in Analytic Geometry, (Mathematics 123A), or
2. Concurrent registration in Mathematics 123A with grades of B or better in both Mathematics 113A and 113B, or
3. A satisfactory score on an advanced mathematics test, and concurrent registration for Mathematics 123A.

Mathematics 113 — College Algebra (3-0) A first college course in the logical approach to algebra, primarily for liberal arts and business administration majors. This course includes: sets and numbers; field axioms; solution and graphing of first degree equations and inequalities; solution of systems of linear equations and inequalities with verbal problems; polynominals and factoring; quadratic equations and inequalities; relations and functions; exponents; radicals; complex numbers.

Mathematics 113A — College Algebra (3-0) An axiomatic approach to the basic concepts of the structure of algebra as a mathematical system; sets; relation and function; negative and fractional exponents; the quadratic function; polynomials and elementary theory of equations; systems of equations including matrix method; inequalities; mathematical induction; progressions; binominal theorem; inverse functions (principally logarithmic and exponential).

Prerequisite: 1½ years High School algebra or consent of the Mathematics department.

Mathematics 113B — Trigonometry (3-0) Angular measure; functions of angles; derivation of formulas; identities; solution of triangles; equations; inverse functions; complex numbers.

Prerequisite: Mathematics 113 or registration in Mathematics 113A.

Mathematics 113E — Applied Mathematics I (3-0) Signed numbers; fractions; percentage, slide rule, and basic Algebra. For students in technological programs.

Mathematics 123E — Applied Mathematics II (3-0) Ratio and proportion, logarithms, intermediate Algebra, solution of triangles by use of trigonometry, and vectors. For students in technological programs.

Mathematics 113K — Mathematics for Business I (3-0) A beginning course in topics from finite mathematics, with business applications. This course includes: sets; probability; binomial distribution; exponents; linear equalities and inequalities; vectors and matrices; linear models; progression.

Prerequisite: Mathematics 113 or acceptable score on the American College Testing Program Examination.

Mathematics 123K — Mathematics for Business II (3-0) Topics in continuous mathematics, with business applications. This course includes: sets, functions, and relations; topics from analytic geometry; topics from calculus: continuity, maxima, and minima, simple derivatives and integrals.

Prerequisite: Mathematics 113F.

Mathematics 113G — Introduction to Modern Mathematics (3-0) A study of the language and theory of sets; elementary symbolic logic, axiomatic theories; field of real numbers; algebraic structures.

Mathematics 123 — Mathematics of Finance (3-0) Simple and compound interest; equations of value; annuities; amortization and sinking funds; depreciation; bonds.

Prerequisite: Mathematics 113 or 113A.

Mathematics 123A — Analytic Geometry (3-0) Cartesian coordinates; the straight line; the circle, and conic sections; transformation of coordinates; polar coordinates; parametric equations; transcendental and higher plane curves.

Prerequisite: Mathematics 113A, 113B, consent of Mathematics department, or see introductory paragraph.

Mathematics 213 — Calculus (3-0) Variables, functions and limits; differentiation of algebraic functions, with applications; differentials; mean value theorem; integration of algebraic functions, with applications.

Prerequisite: Mathematics 123A, or see introductory paragraph.

Mathematics 223A — Calculus (3-0) Methods of integration, with applications; improper integrals; indeterminate forms; hyperbolic functions; vectors and curvilinear motion; introduction to series.

Prerequisite: Mathematics 213.

Mathematics 223S — Programming for Statistics (3-0) Instruction in programming the computer for solving various problems encountered in business (FORTRAN). Univariate analysis, measures of central tendency and scatter; index numbers; and analysis of time series. Materials fee, $2.00.

Prerequisite: Six hours of College Mathematics.

Mathematics 223 — Differential Equations (3-0) Equations of the first order and degree; linear differential equations; operational methods; special types of higher order equations; series solutions; applications of differential equations.

Prerequisite: Mathematics 223A.

Music

Courses are offered for three types of students:

1. Those who desire to pursue a professional career in music after completing a standard four-year music curriculum.
2. Those who desire to take individual private lessons in applied music.
3. Those who desire a cultural background in music.

College Credit in Music

Students who receive college credit are required to meet all admission requirements as listed on page 16. Music majors, who have had no previous training in piano, are required, in addition, to pass a proficiency examination in piano.

Students who desire to take non-credit private lessons are not required to meet regular admission requirements.

The amount of credit is dependent upon the amount of laboratory hours per week decided upon at registration as follows:

1. **Preparatory work** in Applied Music is offered for beginning students and for students not sufficiently advanced to meet requirements for music major courses. College

level students enrolling in preparatory courses may receive credit as follows:

(1) One hour credit; one half-hour lesson, 6 hours practice weekly.

(2) Two hours credit; two half-hour lessons, 10 hours practice weekly.

2. **Credit in Strings, Woodwinds, Piano and Brasses.**

One semester hour credit requires six hours laboratory per week.

Two semester hours credit requires ten hours laboratory per week.

Three semester hours credit requires thirteen hours laboratory per week.

Four semester hours credit requires sixteen hours laboratory per week.

3. **Credit in Voice.**

One semester hour credit requires six hours of laboratory per week.

Two semester hours credit requires nine hours of laboratory per week.

Three semester hours credit requires twelve hours of laboratory per week.

Piano

Music 112PP, 122PP, 212PP, 222PP — Preparatory Piano. Elements of piano-forte playing; instruction material and exercises according to individual needs; from simple forms of scales and arpeggios; selected compositions from Bach, Beethoven, Clementi, Handel, Haydn, Kuhlau, Mozart, Schumann and others.

Admission by examination.

Music 114P, 124P — Freshman Piano. Major and minor scales and arpeggios studies from Cramer, Czerny, Bach. Three Part Inventions, French Suites, Mozart; Beethoven sonatas of moderate difficulty; suitable selections from Chopin, other composers of the romantic school.

Admission by examination. Two half-hour lessons and 16 hours minimum practice weekly.

Music 214P, 224P — Sophomore Piano. Major and minor scales and arpeggios in all forms and rhythms; studies from Clementi, Czerny, Phillip, Bach, Well-tempered Clavichord, English Suites;

Beethoven sonatas, Op. 2, Op. 10, Op. 26; allegro movement of a concerto; selected compositions from Chopin, Debussy, Mendelssohn, Schubert, etc.

Prerequisite: Completion of Freshman Piano or equivalent. Two half-hour lessons and 16 hours minimum practice weekly.

Music 314P, 324P — Advanced Piano. Major and minor scales in parallel and contrary motion, octaves, tenths, sixths, and double-thirds; all forms of broken chords; Bach Preludes and Fugues; Beethoven Sonatas, suitable concertos and concert repertoire; student required to play half-hour recital.

Prerequisite: Completion of Sophomore Piano or its equivalent. Two half-hour lessons and 18 hours minimum practice.

Strings

Music 112PVc, 122PVc, 212PVc, 222PVc — Preparatory Violoncello. Establishment of position; selected studies from Dotzauer, Grutzmacher, and others; appropriate solos. Admission by examination.

Music 112PBv, 122PBv, 212PBv, 222PBv — Preparatory Bass Viol. Establishment of position; studies from Simandl, Book I; scales and bowing exercises.

Admission by examination.

Music 112 PVi, 122 PVi, 212 PVi, 222 PVi — Preparatory Violin. Principles and establishment of good position; simple scales and arpeggios; exercises from Auer, Kayser, Laoureaux, Sevcik, Wohlfhart; suitable selections from Bach, Beethoven, Corelli, Faure, Handel, Mozart, Vivaldi, and others.

Admission by Examination.

Music 114Vi, 124Vi — Freshman Violin

Music 114VA, 124VA — Freshman Viola

Music 114Vc, 124Vc — Freshman Violoncello

Music 114BV, 124BV — Freshman Bass Viol

All form of scales and arpeggios in extended range. Selected study material emphasizing various legato and staccato styles; selected solos from the classic and romantic schools of composition. Admission by examination.

Music 214Vi, 224Vi — Sophomore Violin

Music 214VA, 224VA — Sophomore Viola

Music 214Vc, 224Vc — Sophomore Violoncello

Music 214BV, 224BV — Sophomore Bass Viol

Three and four octave scales and arpeggios in various rhythms; selected advanced study material; suitable solos from classic, romantic and contemporary composers including works in the larger forms; ensemble literature.

Prerequisite: Completion of Freshman strings or its equivalent.

Voice

Music 113Vo, 123Vo — Freshman Voice. Elements of vocal culture—breath control, voice production, pure vowels, consonants; scales and arpeggios; vocalises—Concone, Panofka, Vaccai; the simpler songs in English and Italian.

Admission by examination.

Music 213Vo, 223Vo — Sophomore Voice. Technical development — the sustained tone of the old Italian bel canto, roulades, runs and trills; the simple opera and oratorio arias of Gluck, Handel, Mozart, Scarlatti; beginnings of German Lieder, English and American songs.

Prerequisite: Completion of Freshman Voice or equivalent.

Woodwinds

Music 112C, 122C, 212C, 222C — Preparatory Clarinet. Principles of posture, embouchure, articulation; elementary scales and arpeggios; graded studies and duets; selected simple pieces.

Admission by examination.

Music 114C, 124C — Freshman Clarinet. Etudes by Klose and Lazarus; major and minor scales, solos and duets.

Admission by examination. Two half-hour lessons and 16 hours minimum practice weekly.

Music 214C, 224C — Sophomore Clarinet. Etudes by Langenus, Lazarus, Rose, and Voxman; major and minor scales, orchestral studies; transpositions; solo and ensemble literature.

Prerequisite: Completion of Freshman Clarinet or equivalent. Two half-hour lessons and 16 hours minimum practice weekly.

Music 112S, 122S — Freshman Saxophone. Chromatic scales, all major and minor scales and arpeggios. Studies equivalent to

Calliet Method, Book II; Rubank, Selected Studies, Klose-Derigny. Complete Method. Representative Solos.

Prerequisite: Admission by examination. Two half-hour lessons and 10 hours minimum practice weekly.

Music 212S, 222S — Sophomore Saxophone. Chromatic scales, all major and minor scales and arpeggios. Studies equivalent to Ferling, 48 Etudes, Rubank, Selected Studies; Klose-Derigny, Complete Method. Representative Solos.

Prerequisite: Music 122S or the equivalent. Two half-hour lessons and 10 hours minimum practice weekly.

Prerequisite: Ability to read simple music notation. Required of music majors. Chorus is required of all elementary harmony enrollees.

Music Theory

Music 111T, 121T — Elementary Ear Training and Sight Singing (2-0) Rhythmic, melodic, and harmonic dictation in the major and minor modes; sight singing in the treble and bass clefs. Must be taken concurrently with Music 113T, 123T respectively.

Required of music majors.

Music 113T, 123T — Elementary Harmony (3-0) The study of chord building and chord connection including keyboard harmony; triads and their inversions, cadences, modulations to related keys, simple non-harmonic tones, seventh chords, original part-writing exercises. Must be taken concurrently with Music 111T, 121T respectively.

Prerequisite: Ability to read simple music notation. Required of music majors.

Music 113L, 123L — Introduction to Music (3-0) A general survey of the development of the art of music designed to provide a basic understanding of the principal periods and styles of music literature; origins, folk music, plainsong, vocal and instrumental forms, elementary acoustics, biographical sketches and bibliography.

No prerequisites; open to non-music majors. Required of music majors.

Music 211T, 221T — Advanced Ear Training and Sight Singing (2-0) Continuation of dictation and sight singing studies, including the C clefs, modulation, and chromatic intervals. Must be taken concurrently with Music 213T, 223T respectively.

Prerequisite: Music 121T. Required of music majors.

Music 213T, 223T — Advanced Harmony (3-2) A further study of harmony and an introduction to counterpoint; the ninth, eleventh and thirteenth chords, chromatically altered chords, modulation to distant keys, the decorative material of harmony; a survey of the five species. Must be taken concurrently with Music 211T, 221T, respectively.

Prerequisite: Music 123T. Required of music majors. Chorus is required of all advanced harmony enrollees.

Music 113A — Church Choir Literature and Techniques (3-0) Development of church group repertoire with ensemble and solo materials for choir groups of all ages. The organization and development of general church music programs.

Musical Organizations

Music 111B, 121B — Band

Music 211B, 221B — Band

The official Apache Band, open to any student who has had suitable training. Three hours per week.

Music 111Ch, 121Ch — Chorus

Music 211Ch, 221Ch — Chorus

A chorus in choral singing organized for the purpose of becoming familiar with the more important works of vocal ensemble. Open to all students by audition. Three hours per week.

Music 1130, 1230 — Symphony Orchestra

Music 2130, 2230 — Symphony Orchestra

Open to advanced instrumental students. Members are given practical training in professional orchestral routine in the East Texas Symphony Orchestra.

Admission by audition. Four hours per week.

Nursing

Nursing 112 — Introduction to Nursing (2-0) This course is designed to assist the student in her adjustment to college and to the profession of nursing. It includes: a survey of the historical development of nursing from its conception to the modern times, with special consideration of contemporary movements; a discussion of nursing organizations; career opportunities; and professional relationships with emphasis placed on the qualifications considered essential for effective nursing.

Nursing 122 — Introduction to Nursing (2-0) A continuation of Nursing 112 for the advanced student.

Nursing 113 — Fundamentals of Nursing (2-2) Fundamentals of Nursing is designed to serve as a foundation for nursing practice. Material and experiences are planned to aid the students in developing ideals, attitudes, knowledge and skills which are basic to comprehensive nursing care. The student is given the opportunity to contribute, as a team member, to the planning and the providing for comprehensive care. Identifying patient needs and planning the care of the total patient are stressed. Concepts of mental health and interpersonal relationships are introduced to the student in order for him to gain a better understanding of himself and others. The value of good communication techniques are also emphasized. The student must learn not only how to perform common techniques, but also when to perform them and how to modify them in individual patient-nurse situations.

Nursing 123 — Fundamentals of Nursing (2-2) A continuation of Nursing 113.

Nursing 213 — Medical Nursing I (2-10) This introductory course is designed to assist the student in becoming familiar with medical conditions primarily of the adult patient. The content is arranged according to the theory that learning proceeds from the simple to the complex. Part one includes general information and trends applicable to most medical patients. The purpose is to assist the student in developing a foundation for succeeding subject material. Part two is divided into units according to the anatomical systems of the body. Specific conditions are presented in relation to diagnostic measures, classical picture, pathology, medical and surgical management, rehabilitation and health teaching, with special emphasis on nursing care of these patients. Concurrent guided clinical experience is provided in the local hospitals.

Nursing 223 — Community Aspects of Nursing (3-0) This course is designed to help the student develop a better understanding of men's behavior and how this relates to illness and health. Emphasis is placed on the community resources and nursing services available to the patient and the principles and methods used to improve health in the community. A concurrent clinical laboratory practice is provided through an observation period at the Tyler-Smith County Health Department and through laboratory experience in the emergency departments of local hospitals.

Nursing 216 — Surgical Nursing I (4-10) This introductory course is designed to assist the student in becoming familiar with surgical conditions primarily of the adult patient. The content is arranged according to the theory that learning proceeds from the simple to the complex. Part one includes general information and trends applicable to most surgical patients. The purpose is to assist the student in developing a foundation for succeeding subject material. Part two is divided into units according to the anatomical system of the body. Specific conditions are presented in relation to diagnostic measures, classical picture, pathology, medical and surgical management, rehabilitation and health teaching, with special emphasis on nursing care of these patients. Concurrent guided clinical experience is provided in the local hospitals.

Nursing 226 — Introduction to Operating Room Nursing (3-10) This course is an introduction to operating room technique, designed to equip the student with that knowledge necessary to be able to function at a student level in the operating room. The student participates in a very vital process relating to surgical nursing and aids the patient in receiving that care necessary to restore his health, whenever possible. A major emphasis is the knowledge and skill necessary to provide safety to the patient while in the operating room. Concurrent laboratory practice is provided with student rotation through the operating rooms of a community hospital.

Pharmacology

Pharmacology 114 (4-1) This course is designed to help the student develop an understanding of drugs, their administration, uses, effects and side effects. Emphasis is placed on classes of drugs as they are used in the various body systems and the nursing care needed during drug therapy.

This course also assists the student to become proficient in accurately calculating dosages and/or preparing correct solutions for medication administration.

Physical Education

Physical Education 111, 121, 211, 221 — Physical Training for College Men (0-2) Includes such activities as calisthenics, isometrics, karate, football, basketball, volleyball, track, tennis, softball, and other physical fitness activities.

Physical Education 111A, 121A, 211A, 221A — Physical Training for College Women (0-2) Physical activities for women including

calisthenics, basketball, volleyball, table tennis, tennis, archery, tap dancing, badminton, etc.

Physical Education 113C — Art of Daily Living (3-0) (Women) A course designed to place emphasis on the needs and activities of the individual student to assist in making proper adjustments. The fundamental aim is to develop self-assurance through knowledge that one's health, appearance, clothes, styling, make-up, and posture are correct. Students are given personalized instruction with respect to their own problems. By means of lectures, demonstrations, practice, and opportunities to perform in public, an effort is made to develop in the student greater poise and alertness. Instruction includes techniques for balance and control of movement, selection and care of clothing.

Physical Education 123C — Art of Daily Living (3-0) (Women) A continuation of Physical Education 113C.

Physical Education 213C — Appreciation of Dance (3-2) (Women) Basic fundamentals and interpretations of dance; the principles and applications applied to the interpretation of modern and conventional dance.

Physical Education 223C — Appreciation of Dance (3-2) (Women) A continuation of Physical Education 213C.

Physical Education 113 — Methods (2-2) The organization and administration of physical education in the public schools. The course of study for physical education as recommended by the State Department of Education for high schools is used as a basis for study. Laboratory periods are devoted to actual problems in the field.

Physical Education 123 — Methods (2-2) A continuation of Physical Education 113 with special attention given to problems in the physical education field.

Physical Education 113A — Theory of Football and Track (3-0)

Physical Education 123A — Theory of Basketball and Baseball (3-0)

Physics

Physics 113 — Physics Problems (3-0) The use of the slide rule, preparation and interpretation of graphical data. Problems from physics and engineering are used as exercises. Required of students in Electronics, Drafting, and Petroleum Technology.

Physics 114B — General Physics (3-3) (Previously Physics 124) A course for premedical students, majors in pharmacy and archi-

tecture, and other students who need a two-semester technical course in physics but who do not intend to take additional courses in physics.

Mechanics, heat, and sound.

Physics 124B — General Physics (3-3) (Previously Physics 114) A continuation of Physics 114B.

Electricity and magnetism, Light, atomic and nuclear physics.

Prerequisite: Physics 114B or high school Physics.

Physics 124A — Mechanics (3-3) A course for students who intend to major in physics, chemistry, or mathematics.

Prerequisite: Credit or registration in Mathematics 213.

Physics 214A — Advanced Physics (3-3) (Previously Physics 224) A course designed to meet the second year physics requirements of students in engineering, physics, medicine, chemistry, or mathematics.

Heat, Wave-motion, and optics.

Prerequisite: Physics 124A, or Engineering 213, and credit or registration for Mathematics 223A.

Physics 224A — Advanced Physics (3-3) (Previously Physics 214) Continuation of Physics 214A. Electricity and magnetism, and modern physics.

Prerequisite: Physics 124A or Engineering 213 and credit or registration for Mathematics 223A.

Psychology and Orientation

Orientation 110 — Freshman Orientation. Freshman Orientation is a course designed to help students bridge the gap between high school and college. Library usage, study habits, good attitudes, and budgeting of time are taught. The giving and interpretation of standardized tests and vocational counseling are included in the course. Required of all beginning students unless excused by the Academic Vice President.

Psychology 113A — Psychology of Learning (3-0) Fundamental mental and psychological principles underlying motivation, behavior, individual difference, and the learning processes.

The student may not count both Education 113 and Psychology 113A for credit.

Psychology 111A — Psychology of Learning (1-0) This is the first one-third of Psychology 113A offered on a one semester hour basis in the evening college.

Psychology 111B — Psychology of Learning (1-0) This is the second one-third of Psychology 113A offered on a one semester hour basis in the evening college.

Psychology 111C — Psychology of Learning (1-0) This is the final one-third of Psychology 113A offered on a one semester hour basis in the evening college.

Psychology 223 — Applied Psychology (3-0) This course deals with the application of psychological facts and principles to problems and activities of life and work.

Psychology 223A — Child Growth and Development (3-0) How children grow and develop, the stages in the process, and the factors which influence growth and development are considered.

Psychology 213 — Introductory Psychology (3-0) A study of the basic principles of psychology, bearing on individual differences, intelligence, the development of personality, growth, motivation, drives, emotions and learning.

Prerequisite: Sophomore standing.

Sociology 211A — Introduction to Sociology (1-0) This is the first one-third of Sociology 213 offered on a one semester hour basis in the evening college.

Sociology 211B — Introduction to Sociology (1-0) This is the second one-third of Sociology 213 offered on a one semester hour basis in the evening college.

Sociology 211C — Introduction to Sociology (1-0) This is the final one-third of Sociology 213 offered on a one semester hour basis in the evening college.

Speech and Drama

Speech 111 — Parliamentary Procedure (1-0) A course covering correct procedure in the forming of an organization and how to conduct meetings properly.

Speech 113 — Public Speaking (3-2, 3-0) Practice in platform delivery; planning, organizing and delivering general platform speeches. Principles and types of speeches involved in the areas of platform speaking, rhetoric and public address. For drama and speech majors three lectures and two laboratory hours per week; for others three lectures per week. Speech 113 and Speech 223A cannot both be counted for credit.

Speech 113A — Fundamentals of Speech (3-2, 3-0) Fundamental principles of voice development, variety in expression and interpretation; use of visual action in oral communication; planning, organizing and delivering general platform speeches and readings. For drama and speech majors three lectures and two laboratory hours per week; for others three lectures per week.

Speech 123A — Oral Interpretation (3-2, 3-0) Analysis of thought; development of imagination; oral presentation of literary forms; individual problems in interpretative reading. For drama and speech majors three lectures and two laboratory hours per week; others three lectures per week. Prerequisite: 113A or consent of the instructor.

Speech 123B — Fundamentals of Acting (2-2) Theory and practice in bodily control, voice, pantomine, interpretation, characterization, and stage technique. Analysis and study of specific roles, principles of group movement, varied projects in group acting, application of principles in departmental productions.

Prerequisite: Speech 113A. Offered biannually in even numbered years.

Speech 123C — Basic Theatre Practice (3-2) Study and practice in the visual arts of the theatre. Includes an introduction to the following: stagecraft, scene design, lighting, costume design and makeup. Three (3) hours lecture per week, and two (2) hours laboratory per week. Additional work on technical crews to provide practical experience.

Speech 123D — Introduction to Radio and Television Communication (2-4) A study of the principles of radio-tv speaking, including the preparation of commercials, news and program continuity. History, development and regulation of the broadcasting industry as a mass medium and social force. Practical experience in performance on the college radio station. Two lectures and four laboratory hours per week.

Prerequisite: Speech 113A or consent of instructor. Offered biannually in odd numbered years.

Speech 213 — Debate (3-0) A study of the principles and theories of debate technique. Group, forum and panel discussions are held on foremost controversial issues. Especial attention is given to the current national college debate question. Various intramural and inter-college debates.

Speech 223A — Business and Professional Speaking (3-0) Special types and techniques of speeches most common to business and professional people; theory and practice in business speech situations, personal conferences, oral reports, sales talks and occasional speeches.

Prerequisite: Sophomore standing, except by permission of the Dean.

Speech 113 and Speech 223A cannot both be counted for credit.

Speech 213A — Survey of the Theatre (3-2) An introductory study of the history, art and aesthetics of drama, including an elementary consideration of plays and playwriting; the techniques and styles of acting and directing; present day production techniques and theaters. For drama and speech majors three lectures and two laboratory hours a week.

Distributive Education

In accordance with its stated objectives, Tyler Junior College co-operates with business and industrial concerns of the area by providing personnel training programs. Specialized non-credit courses in Distributive Education are organized whenever there is a request by a sufficient number of persons for such a class.

The courses are taught in either the regular day session or in the Evening Division to suit the needs of the students.

THE TECHNICAL AND INDUSTRIAL DEPARTMENT

Tyler Junior College technical courses are pre-employment training courses which fit the student into the technical, trade and industrial world.

The program is divided into Technical Institute courses, and Trade Extension classes.

Day Courses. Courses offered in the day division, technical in nature, are operated on the semester hour plan. These courses are one or two years in length and are divided into semesters. Upon completion of appropriate units, the student is given credit in terms of semester hours.

Admission to day technological courses is based upon graduation from an accredited high school or upon satisfactory completion of an entrance examination.

Trade Extension Classes. Tyler Junior College, in cooperation with the Texas Education Agency, offers "trade extension" classes. Instruction is given to trade and industrial workers in courses that are designed to teach the workers more about their jobs, and thereby increase their productivity and assure more opportunities for advancement.

Any worker may enter a trade extension class if the instruction given is such as will help him in his daily work or fit him for promotion to a better job in the same occupation.

All workers are eligible for trade extension classes who are over sixteen years of age and who are employed in those trades or industrial pursuit for which supplementary instruction can be given.

Tuition. Technical Department Tuition.

Tyler Junior College District Residents, $60.00 per semester for a whole or part of a program.

Texas non-district residents, $90.00 per semester for a whole or part of a program.

Non-residents of Texas, $200.00 per semester for a whole or part of a program.

The Electronic Data Processing Program has a $15.00 per semester rental fee in addition to the tuition.

(Tuition rates are subject to change by the State Legislature.)

Electronic Data Processing

The College offers one and two year data processing programs under the jurisdiction of the Business Department.

The nine months program fits the student to qualify for employment in the field of automatic data processing. The curriculum centers around the operation and control of data processing machines, including control panel wiring and programming of machines other than the electronic digital computer.

A certificate of proficiency is granted upon successful completion of the course.

The two year program leads to the Associate-in-Business Administration degree and emphasizes mastery of the electronic digital computer. For description of the curriculum see Page 38.

A $15.00 per semester rental fee is charged in these programs.

One-Year Program

First Semester

English 113 — Composition and Rhetoric
Business Administration 113B — Introduction to Business
Business Administration 214 — Accounting
Electronic Data Processing 113
Mathematics 113 — College Algebra or Business Administration 113D — Business Mathematics
Physical Education 111 — Physical Training
Orientation 110

Second Semester

English 223B — Technical Report Writing
Business Administration 224 — Accounting
Electronic Data Processing 123
Business Administration 113M — Office Machines
Speech 113A — Fundamentals of Speech
Physical Education 121 — Physical Training

Associate in Business Administration Plan

First Year — First Semester

English 113 — Composition and Rhetoric
Business Administration 113B — Introduction to Business
Business Administration 214 — Accounting
Electronic Data Processing 113
Business Administration 113T — Typewriting or Elective
Physical Education 111 — Physical Training
Orientation 110

First Year — Second Semester

English 223B — Technical Report Writing
Mathematics 113 — College Algebra or Business Administration 113D — Business Mathematics
Business Administration 214 — Accounting
Electronic Data Processing 123
Business Administration 123T — Typewriting or Elective

Second Year — First Semester

Electronic Data Processing 213 — Computer
Economics 213 — Principles of Economics
History 213 — American History
Government 213 — American Government
Business Administration 113M — Office Machines

Second Year — Second Semester

Electronic Data Processing 223 — Computer
History 223 — American History
Economics 223 — Economic Problems
Government 223 — National and State Government
Speech 223A — Business and Professional Speaking

Description of Courses

Electronic Data Processing 113 — Electronic Data Processing (3-3) An over-all survey of the function of IBM Unit Record equipment to include 024, 082, 514, 085, 402, 548. Control panel wiring will be included in this course. Rental Fee $15.00.

Electronic Data Processing 123 — Introduction to the Computer (3-3) An introduction to computer concepts basic to all computer systems. Console operation of the IBM 1401 and elementary programming techniques using the Autocoder language. Rental fee $15.00.

Prerequisite: Electronic Data Processing 113 or consent of the instructor.

Electronic Data Processing 211 — Computer Language (1-0) An introduction to programming to familiarize the student with computer approaches to solving mathematical and business problems. Emphasis on solution of problems through use of Fortran Language.

Electronic Data Processing 213 — Computer (3-3) A study of the basic programming techniques and actual program writing for the IBM 1401 computer system. Autocoder and Fortran languages will be studied. Rental fee $15.00.

Prerequisite: E.D.P. 123 or consent of the instructor.

Electronic Data Processing 223 — Computer (3-3) A study of programming techniques using Cobol and R. P. G. languages. Sophisticated program writing for the IBM 1401 computer system. Rental fee $15.00.

Prerequisite E.D.P. 123 or consent of the instructor.

Petroleum Technology

Petroleum Technology. The petroleum technology curriculum is established with the advice and co-operation of employers and workers in the oil fields to provide preliminary training for workers in various aspects of petroleum development and production. The oil industry requires employees with a background for employment which includes training in locating, drilling and maintaining wells, and in handling and refining petroleum products.

While scientific background and related information is included in the technology course, major emphasis is upon operation in the oil field, with opportunity for field trips and for employment.

Petroleum technology majors have available to them training in four broad areas: exploration, development, marketing, and construction and maintenance. The two-year program listed below is the pattern suggested for students who plan to enter the petroleum industry in the field of exploration and development.

First Year — First Semester

Petroleum Technology 112 — Petroleum Development
Petroleum Technology 112A — Rotary Drilling Fluids
Petroleum Technology 112B — Drilling Equipment Field Lab
English 113 — Composition and Rhetoric
Mathematics 113E — Applied Mathematics I *
History 213 — History of the United States

First Year — Second Semester

Petroleum Technology 121 — Oil Field Records
Petroleum Technology 122 — Production Methods
Drafting 111 — Blueprint Reading
Petroleum Technology 122A — Production Equipment Field Lab
English 223B — Technical Report Writing
Mathematics 123E — Applied Mathematics II *
History 223 — History of the United States

* Students placement in mathematics classes is based upon the results of tests and subjects completed before admission.

Second Year — First Semester

Petroleum Technology 213 — Introduction to Petroleum Industry
Petroleum Technology 211 — Well Logging Methods
Petroleum Technology 212 — Petroleum Laboratory Methods
Physics 113 — Elementary Physics
Electronics 113 — Basic Electronics
Government 213 — American Government

Second Year — Second Semester

Petroleum Technology 222 — Geophysical Methods
Petroleum Technology 221 — Planetable Surveying for Geophysics
Petroleum Technology 222A — Natural Gas Production
Petroleum Technology 221A — Hydraulics for Petroleum Technologists
Mathematics 113B — Trigonometry *
Drafting 223B — Map Drafting
Government 223 — American Government

Description of Courses

Petroleum Technology 112 — Petroleum Development (2-0) Exploration methods, principles of oil field development, spacing of wells, rotary and cable tool drilling methods, drilling fluids, directional drilling, oil field hydrology, well completion practices.

Petroleum Technology 112A — Rotary Drilling Fluids (1-2) Testing methods, determining drilling fluid characteristics, drilling fluid problems, use of special drilling fluids, laboratory exercises consisting of practice in altering the properties of fresh water and special drilling fluids for drilling through troublesome zones with the rotary system.

Petroleum Technology 112B — Drilling Equipment Field Laboratory (1-2) Trips to examine different types of drilling equipment in actual operation in the field. Also trips to service companies to study their drilling tools.

Petroleum Technology 121 — Oil Field Records (1-0) A study of records kept by oil companies and reports made within companies and to the railroad commission.

Petroleum Technology 122 — Production Methods (3-0) Methods of production of oil, including lease layout and operation, operation of treating equipment, well stimulation and work over.

* Students placement in mathematics classes is based upon the results of tests and subjects completed before admission.

Petroleum Technology 122A — Production Equipment Field Laboratory (1-2) Trips to examine different types of production equipment and treating equipment in actual operation and gas lift.

Petroleum Technology 213 — Introduction to Petroleum Industry (3-0) General study of the industry, including history of the industry, chemistry of petroleum, its occurrence in nature and its importance in the world economy, leasing and royalty exploration, drilling and production methods, conservation, transportation and refining, economics of the oil industry.

Petroleum Technology 211 — Well Logging Methods (1-0) A study of theories of electrical, micro-electrical radiation, optical chemical, and mechanical well logging methods and application of these theories, field examples and problems.

Petroleum Technology 212 — Petroleum Laboratory Methods (1-2) Tests made in the oil industry. Emulsion breaking, field tests made on crude oil, elementary refinery tests, corrosion tests, and lubricating oil tests and subsurface laboratory methods.

Petroleum Technology 221 — Planetable Surveying for Geophysics (1-2) Use of the planetable and alidade in surveying as applies to use by geophysical party.

Petroleum Technology 221A — Hydraulics for Petroleum Technologists (1-0) Hydraulics in drilling, in oil pipelines, and in artificial lift.

Petroleum Technology 222 — Geophysical Methods (3-0) Theory of geophysical methods; one complete problem in Sceismic coverage of an area.

Petroleum Technology 222A — Natural Gas Production (2-0) Field handling of natural gas, study of methods, equipment technology of natural gas.

Drafting

First Year — First Semester

Drafting 113A — Engineering Drawing
Drafting 113B — Freehand Drawing
English 113 — Composition and Rhetoric
Mathematics 113E — Applied Mathematics I *
History 213 — History of the United States

First Year — Second Semester

Drafting 213D — Descriptive Geometry
Drafting 123B — Mechanical Drawing

* Students placement in mathematics classes is based upon the results of tests and subjects completed before admission.

English 223B — Technical Report Writing
Mathematics 123E — Applied Mathematics II *
History 223 — History of the United States

Second Year — First Semester

Drafting 213A — Machine Drawing
Drafting 123A — Architectural Drawing
Government 213 — American Government
Mathematics 113B — Trigonometry *
Physics 113 — Elementary Physics

Second Year — Second Semester

Drafting 223B — Map Drafting
Drafting 223C — Plane Surveying
Government 223 — American Government
Speech 223A — Business and Professional Speaking
Electronics 113 — Basic Electronics

Description of Courses

Drafting 111 — Blueprint Reading (1-0) Interpretation of blueprints with emphasis on the obtaining of information from mechanical and electronic blueprints for Petroleum Technology majors.

Drafting 113A — Engineering Drawing (2-3) A course designed to cover the basic requirements for an engineering degree with extra emphasis put on drafting skills. The material covered includes lettering, instruments and their use, applied geometry, orthographic freehand and instrument drawings, auxiliary views, sections and conventions, pictorial drawings, dimensions and notes, threads and fasteners, working drawings, charts, graphs and diagrams. Term project — a set of working drawings of a piece of equipment having three or more parts.

Drafting 113B — Freehand Drawing (2-3) A course designed for the draftsman to develop the skill to do good orthographic and pictorial freehand drawings. Air brush techniques are included. Several types of pictorial drawings will be studied and practiced, such as Axnometric, (Trimetric, Diametric, Isometric), Oblique (Cavalier, Cabinet, and projection) Perspective (1, 2, and 3 point perspective and the measuring point method). Pictorial sectional and exploded drawings will be stressed along with product illustration.

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* Students placement in mathematics classes is based upon the results of tests and subjects completed before admission.

Drafting 123A — Architectural Drawing (2-3) A course in home planning with emphasis on details. A complete set of plans for a one-story home is required. Some time is spent in elementary structural drafting such as terminology, shapes and working detail drawings as applied in structural drafting.

Drafting 123B — Mechanical Drawing (2-3) A second course in mechanical drawing. Further study into fundamentals, such as intersections, development, keys, rivets and springs, gears, cams and pipe drafting. Added emphasis is given the appendix as applied to making industrial drawings to acquaint the student with the industrial practices in making details, assemblies and isometric single and double line drawings.

Drafting 213A — Machine Drawing (2-3) Machine drafting, including details and assemblies of machine parts, jigs and fixtures, with emphasis on the use of American Standards. Templates and industrial drafting equipment. Additional time is spent on drafting in the welding and foundry field.

Drafting 213D — Descriptive Geometry (2-3) A course involving the principles and application of orthographic projection; space relations of points, lines, and surfaces; the true length of lines in space; space surfaces and intersections and developments; intersections of curved surfaces, cylinders, cones, and spheres; highway, geology and mining problems.

Drafting 223B — Map Drafting (2-3) Map Drafting emphasizing lettering, symbols, scales, lease maps, township maps, highway maps and computations, pipe lines, mapping by coordinates and from surveying notes. Most of the work is in ink, using paper, linen and some of the plastics. Same work is done in topography and aerial maps using Edgar Tobin's "Maps for the Oil Industry" as a text. Includes field problems with practical application of surveying instruments. Use of the planimeter, calculator, slide rule and computer calculations.

Drafting 223A — Manufacturing Design, Materials and Processing (2-4) This course is designed to include the theory of design, the study of the properties of metals, plastic, and the manufacturing and processing of articles by casting, forming, and machining. A part of the course will include cost analysis covering manufactured articles as well as the building industry.

Electronics

First Year — First Semester

Electronics 113 — DC and AC Theory and Circuits
Electronics 113A — Power Distribution
Electronics 113L — Basic Electricity Laboratory

English 113 — Composition and Rhetoric
Mathematics 113E — Applied Mathematics I *
History 213 — History of the United States

First Year — Second Semester

Electronics 123A — Automatic Controls
Electronics 123 — Industrial Electronics
Electronics 123L — Basic Electronics Laboratory
English 223B — Technical Report Writing
Mathematics 123E — Applied Mathematics II *
History 223 — History of the United States

Communications Option

Second Year — First Semester

Electronics 213 — Vacuum Tubes and Semi-Conductors
Electronics 213L — Industrial Electronic Laboratory
Engineering 112 — Engineering Drawing
Physics 113 — Elementary Physics
Government 213 — American Government

Second Year — Second Semester

Electronics 223 — Industrial Instrumentation Fundamentals
Electronics 223L — Industrial Instrumentation Laboratory
Mathematics 113B — Trigonometry *
Speech 223A — Business and Professional Speaking
Government 223 — National and State Government

Description of Courses

Electronics 113 — DC and AC Theory and Circuits (3-0) A basic course in direct and alternating current. AC and DC circuit parameters, Ohm's law, Kirchhoff's law, magnetism, vector algebra, circuit laws and theorems, reactive components, three phase circuit characteristics, power measurement, resonance, and filters.

Electronics 113A — Power Distribution (3-0) A course in power distribution, generating and transmission systems, load center distribution, substation operation, system and line protection fault detectors, and electric utility practices.

Electronics 113L — Basic Electricity Laboratory (0-6) The laboratory consists of tests and measurements of electrical circuits at low and medium frequency. Familiarization of component parts. Voltage and current measurement. Construction and testing of M derived and Constant K filters. Tuned resonant circuits, Measurement of power in AC and DC circuits. Operation of motors and

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generators, Resistive and reactive networks. Potential transformers, and current transformers.

Electronics 123 — Industrial Electronics (3-0) A thorough study of vacuum tube circuits. Power amplifiers, voltage amplifiers, audio and radio-frequency amplifiers. Compensating networks, gain problems and high and low frequency response. Detection of Radio and Picture carrier signals. Design problems for audio and video amplifiers. Intermediate frequency amplifier and noise reduction circuits.

Electronics 123A — Automatic Controls (3-0) A study of automatic controls and control systems. Time delay relays and switches, power switches, magnetic switches, meters, and application of these devices to control systems. Operation and control of motors, generators, alternators, servomechanisms and other positioning devices.

Electronics 123L — Basic Electronics Laboratory (0-6) Tests and measurements of standard, triode, and pentode amplifier circuits. Voltage gain and power gain measurements. Impedance matching, Coupling circuits. Application of amplifier to control devices. Construction of photoelectric amplifier and counters.

Electronics 213 — Vacuum Tubes and Semiconductors (3-0) A review of vacuum tube circuit problems, an introduction to solid state theory through a study of semiconductor diode, transistors, silicon controlled rectifiers, unijunction field effect transistors, tunnel diodes, photo diodes, and circuit problems.

Electronics 213L — Industrial Electronics Laboratory (0-6) The laboratory covers the design and construction of resistance coupled and transformer coupled amplifiers. Experiments with square wave and pulse oscillators. Transistor and vacuum tube amplifiers, and oscillator circuits. Circuit tracing techniques. Use of the oscilloscope in analyzing wave form and pulse voltages.

Electronics 223 — Industrial Instrumentation Fundamentals (3-0) Instrument application. Energy and force systems, heat transfer. Electrical and mechanical transducers, liquid and gas flow measurements, liquid level measurements, temperature measurements. Potentiometric devices, indicating and registering equipment, humidity measurements, specific gravity, measurements with radio isotopes, ph measurements, telemetering.

Electronics 223L — Industrial Instrumentation Laboratory (0-6) Construction and testing of simple control systems. Automatic motor controls, automatic timers, photo-electric systems. Radio control systems, ton signaling, servo and synchro systems. Computer circuits.

Technical Illustration — Advertising Arts

First Year — First Semester

Drafting 113B — Freehand Drawing
Technical Illustration—Advertising Arts 113A — Basic Graphics
English 113 — Composition and Rhetoric
Mathematics 113E — Applied Mathematics I *
Journalism 113 — Mass Communications

First Year — Second Semester

Technical Illustration—Advertising Arts 123 — Design and Production
Technical Illustration—Advertising Arts 123A — Introduction to Technical Publication Illustration
English 123 — Composition and Rhetoric
History 213 — History of the United States
Speech 223A — Business and Professional Speaking

Second Year — First Semester

Technical Illustration—Advertising Arts 213 — Illustration for Technical Reproduction
Technical Illustration—Advertising Arts 213A — Advanced Technical Illustration — Theory I
Government 213 — American Government
History 223 — History of the United States
Art 213 — History of Art I

Second Year — Second Semester

Technical Illustration—Advertising Arts 223 — Technical Illustration and Reproduction
Technical Illustration—Advertising Arts 223A — Advanced Technical Illustration — Theory II
Government 223 — National and State Government
Art 223 — History of Art II
Psychology 223 — Applied Psychology

Description of Courses

Technical Illustration—Advertising Arts 113A — Basic Graphics (2-4) A course designed to cover the basic requirements of illustration drawing. Including orthographic, isometric, oblique views, and instruments drawings.

Technical Illustration—Advertising Arts 123 — Design and Production (2-4) A basic, well-disciplined, practical background in

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using the most suitable materials and equipment. Stresses versatility in using all media acceptable in technical illustrating.

Technical Illustration—Advertising Arts 123A — Introduction to Technical Publication Illustration (2-4) Production of practical, attractive, original, effective, and aesthetically pleasing design in all illustrating media, with emphasis on lettering, typography, and practicality of reproduction.

Technical Illustration—Advertising Arts 213 — Illustration for Technical Reproduction (2-4) Execution of various problems typical of those which confront the illustrator, with emphasis on subject analysis, research, drawing composition, and preparation of the finished piece. From concept to completion, the student employs creative organization of pictorial material at a professional level.

Technical Illustration—Advertising Arts 213A — Advanced Technical Illustration—Theory I (2-4) Based on the exacting requirements of the armed forces and industry. Preparation and rendering of aircraft, automotive, and machine parts in various media from blueprints for operation and maintenance manuals.

Technical Illustration—Advertising Arts 223 — Technical Illustration and Reproduction Techniques (2-4) Techniques and methods of preparing illustrations and printed material for photography and offset press reproduction.

Technical Illustration—Advertising Arts 223A — Advanced Technical Illustration—Theory II (2-4) Emphasis on rendering and reproduction suitability with air brush, photo retouching, and technical manual publication.

Land Surveying

First Year — First Semester

Surveying 113 — Introduction to Surveying
Surveying 113A — Surveying Measurements Practice
English 113 — Composition and Rhetoric
Mathematics 113E — Applied Mathematics I *
History 213 — History of the United States

First Year — Second Semester

Surveying 123 — Land Surveying
Surveying 123A — Land Surveying
English 223B — Technical Report Writing
Mathematics 123E — Applied Matheamtics II *
History 223 — History of the United States

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Second Year — First Semester

Surveying 213 — Topographic and Construction Surveying
Surveying 213A — Field Mapping Practice
Mathematics 113B — Trigonometry
Government 213 — American Government
Elective — 3 semester hours

Second Year — Second Semester

Surveying 223 — Route Surveying
Surveying 223A — Route Surveying Practices
Drafting 223B — Map Drafting
Government 223 — National and State Government
Speech 223A — Business and Professional Speaking

Description of Courses

Surveying 113 — Introduction to Surveying (3-0) Definitions, kinds, and classes; history; dendrology; units of measurements; precision and errors; slide rule; applied trigonometry and logarithms; azimuths and bearings; notekeeping lettering; data tabulations and survey sketch essentials. Must be taken concurrently with Surveying 113A.

Surveying 113A — Surveying Measurements Practice (2-5) Use, care and adjustment of instruments; chaining and pacing; sighting and signaling; compass and declination; reading graduations and vernier settings; measuring horizontal and vertical angles; first field exercises in leveling and traversing.

Surveying 123 — Land Surveying (3-0) History of public land surveys; subdivisions of land; computation of land areas by D.M.D.'s and coordinates; plotting and recording tracts of land; deed descriptions and interpretations; legal authorities and liabilities of a surveyor; and use of caculator in land area computations. Must be taken concurrently with Surveying 123A.

Surveying 123A — Land Surveying (2-5) Marking corners and establishing boundaries; determining latitudes, departures and land areas; metes and bounds surveys; system of plane coordinates; meandering and irregular boundaries; and resurveys and restoration of lost corners.

Surveying 213 — Topographic and Construction Surveying (3-0) Principles of field astronomy; topographic mapping; contouring; triangulation; building site surveying; construction staking and photogrammetry. Must be taken concurrently with Surveying 213A.

Surveying 213A — Field Mapping Practice (2-5) Field methods of topographic mapping to include transit method and plane table method; plotting and tracing contour lines; completing topographic map data and laying out of building sites.

Surveying 223 — Route Surveying (3-0) Reconnaissance; preliminary and location surveys; photogrammetry; plan and profile sheets; grades and crossections; earthwork estimates; right-of-way documents; and computations of horizontal and vertical curves. Must be taken concurrently with Surveying 223A.

Surveying 223A — Route Surveying Practices (2-5) Centerline traverses; centerline and other R. O. W. levels; crossectioning; route topographic mapping; right angle locations; construction stake locating, and the laying out of horizontal and vertical curves.